

NOVEMBER 6, 1943

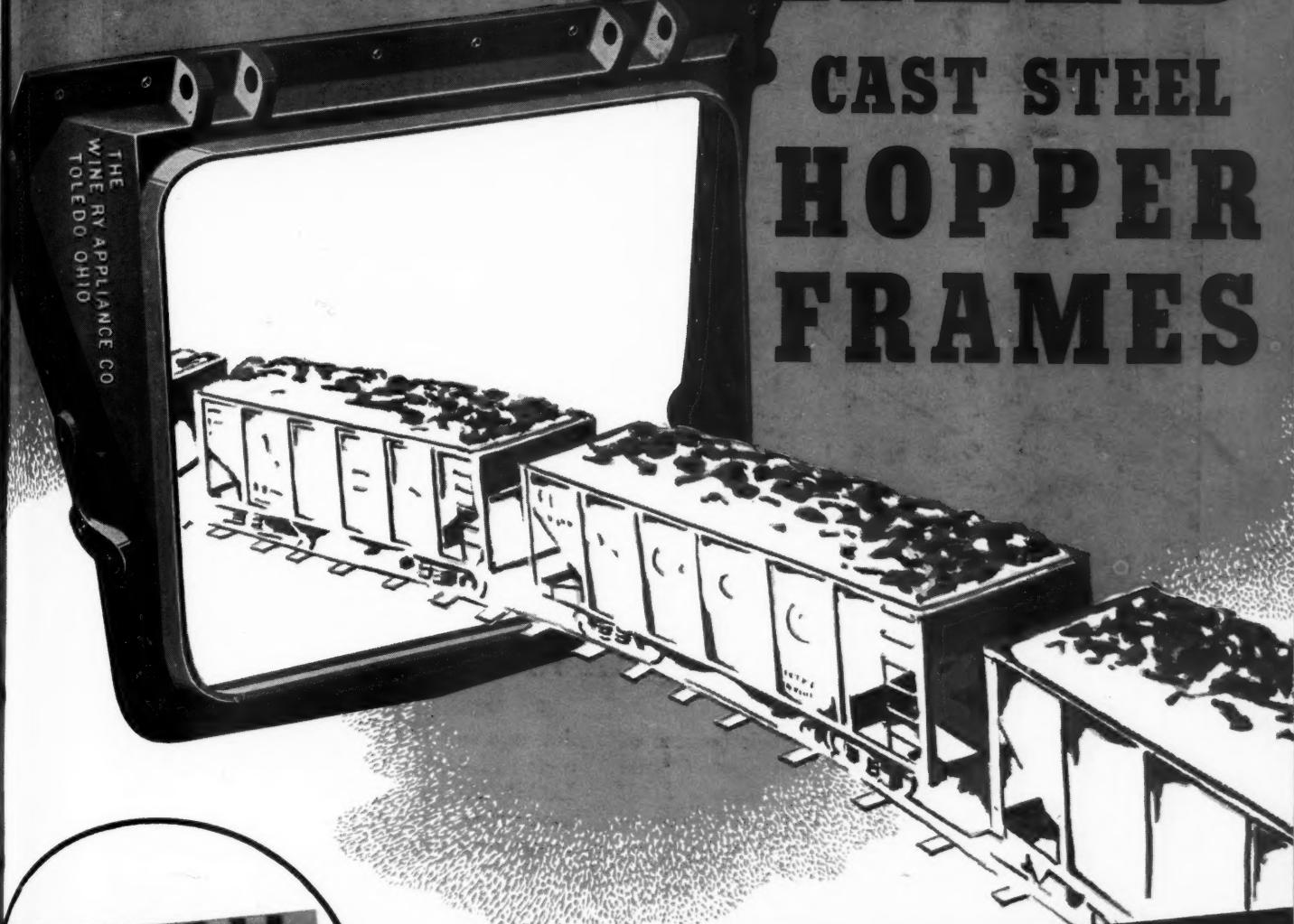
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Railway Age

Founded in 1856

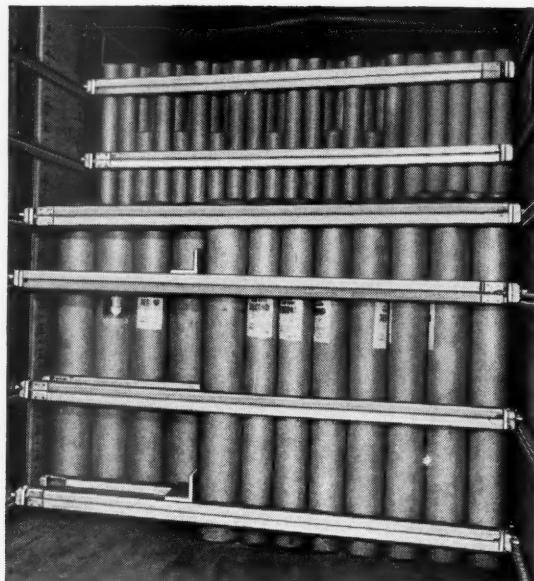
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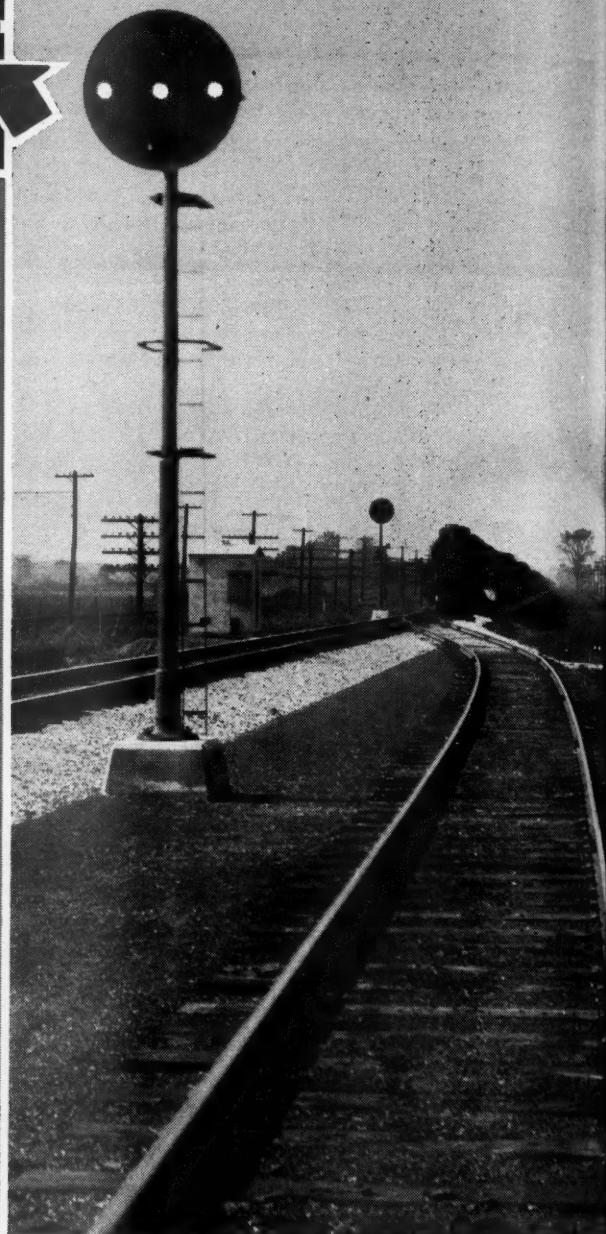
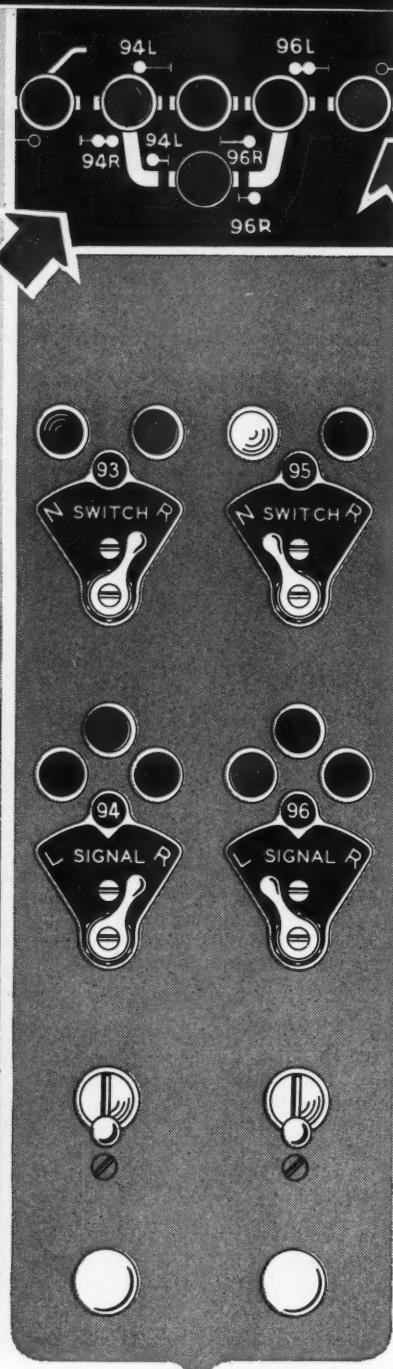
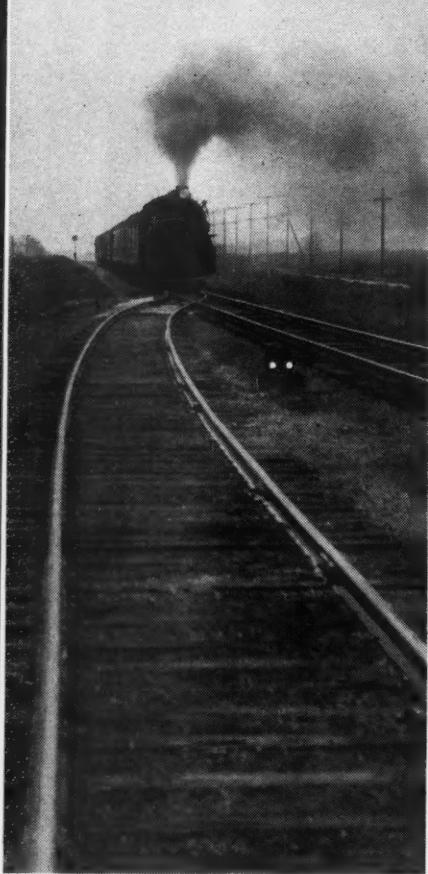
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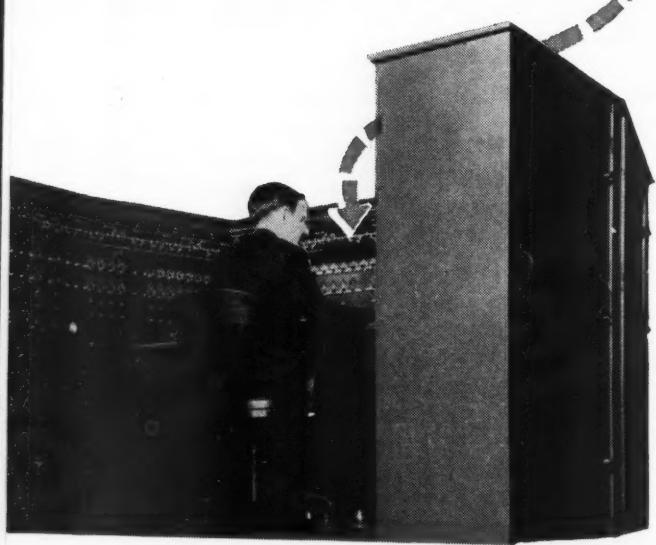
A UNIQUE RECORD!



ON many "Union" C.T.C. installations, "non-stop" meets occur with surprising frequency. They usually result as a consequence of expert train direction coupled with understanding cooperation by train crews.

A unique record of "non-stop" meets was made five days after a 43-mile C.T.C. installation was placed in service. A southbound freight made a "non-stop" meet with a northbound main train at the first passing siding; at the third passing siding . . . a "non-stop" meet with a northbound freight; at the fourth passing siding . . . a "non-stop" meet with a crack northbound passenger; and at a lap-siding location near the southern end of the territory . . . it met two opposing freights . . . and none of the trains stopped!

The southbound train made the run in one hour and 35 minutes including time for a water stop. Compared with the time required by the previous method of train operation this was judged to represent a saving of at least 2½ hours . . . a spectacular but by no means exceptional saving accomplished with "Union" C.T.C.



UNION SWITCH & SIGNAL COMPANY
SWISSVALE, PA.

The Week at a Glance

UNIONS AND DEMOCRACY: American boys are giving their lives and the people their substance to prevent a foreign minority from ruling the world by force. At home, a minority represented (or, at least, spoken for) by union leaders will not acquiesce in the adjudication of its claims by the peaceful methods of collective bargaining, mediation, or arbitration—but insists on using or threatening to use the weapon of the strike, i.e., force. The leading editorial herein raises the question whether the majority of Americans, while we are fighting for democratic principles abroad, will long continue to tolerate domination of the domestic scene by a minority emulating the behavior of the fascists.

FROWNS ON "EXPEDITERS": Some shippers and receivers of freight have been employing "expediters" to infest the railroads, their function being to worry yard forces into giving their cars preferred handling over that accorded to other customers. Mr. Eastman has asked the railroads to report to him every instance of their being troubled by these gentry—who, he says, hamper the performance of railroad forces, and thus aggravate the very condition which might seem to justify the employment of such picadors.

NO MORE WOODEN CARS?: The W.P.B. is reported to be considering abandoning its insistence that new freight cars be of composite steel and wood construction. The savings in steel by piecing it out with wood are not startling—while increased maintenance and some loss of capacity are factors which have to be balanced against these meager savings. There are other objections to compulsory use of wood which are noted in our news pages.

MINES OUT AGAIN, IN AGAIN: Calling to mind "Off Again, On Again, Gone Again—Finnegan," the United Mine Workers have staged another of their chronic strikes; and, once more, the I. C. C. issued a service order (reported in our news pages), making the railroads a distributing agent for all coal in transit—directing them to deliver such fuel only to consignees with short supplies. Once more, in pursuit of its policy of punishing the innocent party in labor disputes, the federal government has seized the mines—but not the miners' union. It would take men of great self-restraint not to yield frequently to the invitation of a set-up, under which, if they resort to their "economic power," they always stand a chance to win something; and, under which, no matter what they do, they run not the slightest risk of losing anything.

WALLACE WARNS UNIONS: The Vice-President of the United States, who is making speeches with furious frequency as if he were running for something, appeared this week at Philadelphia before the C. I. O. and warned the brothers against entering into "unholy alliances" with industry "to loot the consumer's pocket." With a momentary lucidity in his logic, he

declared that, for "labor bosses" to make agreements with "capital bosses" involving "limiting of production and hiking of prices" is "plain hijacking."

NON-OP WAGE CASE: Mr. Eastman thinks the government's wage tribunals ought to quit batting around the non-ops' wage case—which public officials have "hot-potatoed" now for more than four months since Stabilizer Vinson vacated the original emergency board recommendation for 8 cents more per hour. Testifying last week before a "special emergency board" which now has this case before it, the O. D. T. director said that delay in final disposition of this controversy is riling the employees and undermining their morale. This and other testimony before the "special" board is reported elsewhere in these pages.

NON-SECRET STRIKE VOTE: The strike ballot which the non-op unions are circulating among their members, as their contribution to "democratic action" in the adjustment of social differences, was offered in evidence before the "special" board—and its chairman drew attention to the non-secret character of this ballot. One of the board members asked the non-ops' lawyer why they didn't seek court aid in enforcing their wage increase agreement, instead of resorting to a strike vote. The answer was, in effect, that going to law would take time, and the boys want their money now.

ARMY KITCHEN CARS: Better and handier cooking for soldiers en route on the railways will be provided by 400 new kitchen cars now under construction, of which a sample has been completed—and is described and illustrated herein. Each car has two coal-burning Army ranges; ample sinks, cupboards, ice-boxes, and work-tables; and a shower-bath for the soldier crew. Cars are designed for easy post-war conversion to box or express cars.

SIGNALS IN N. AFRICA: Our Army railroaders in the Mediterranean area have had to learn that waving a hand or a light vertically means "stop"—and a whole lot more hand signals utterly different from those at home. An article herein relates some of these innovations the boys have had to get accustomed to—with strange aspects of fixed and movable signals, and a whistle code also entirely à la française.

FOR EMPLOYEE EFFICIENCY: The New York Central's vice-president, personnel, L. W. Horning, analyzes in an article in this issue the steps that management can take to secure better qualified, better trained employees—and a high morale. In the present emergency, he believes that educational programs are a device particularly likely to prove fruitful, and he would not curtail such activity. What are the factors which have the greatest effect on employee satisfaction or dissatisfaction? Out of 47 such influences which he names, Mr. Horning picks ten which he considers most important.

THAT 10 PER CENT MORE: Mr. Eastman has not invited the railroads and their customers to any picnic by his proposal that they push up the efficiency of car utilization another 10 per cent. However, nobody can say "he is asking too much"—as long as there is any slack that they know about still remaining in their performance. And there are few shippers or railroads that can't find spots here and there where they can make each car carry more, for more hours out of the 24—and, especially, eliminate some wasted car movement. An editorial herein canvasses some of the possibilities.

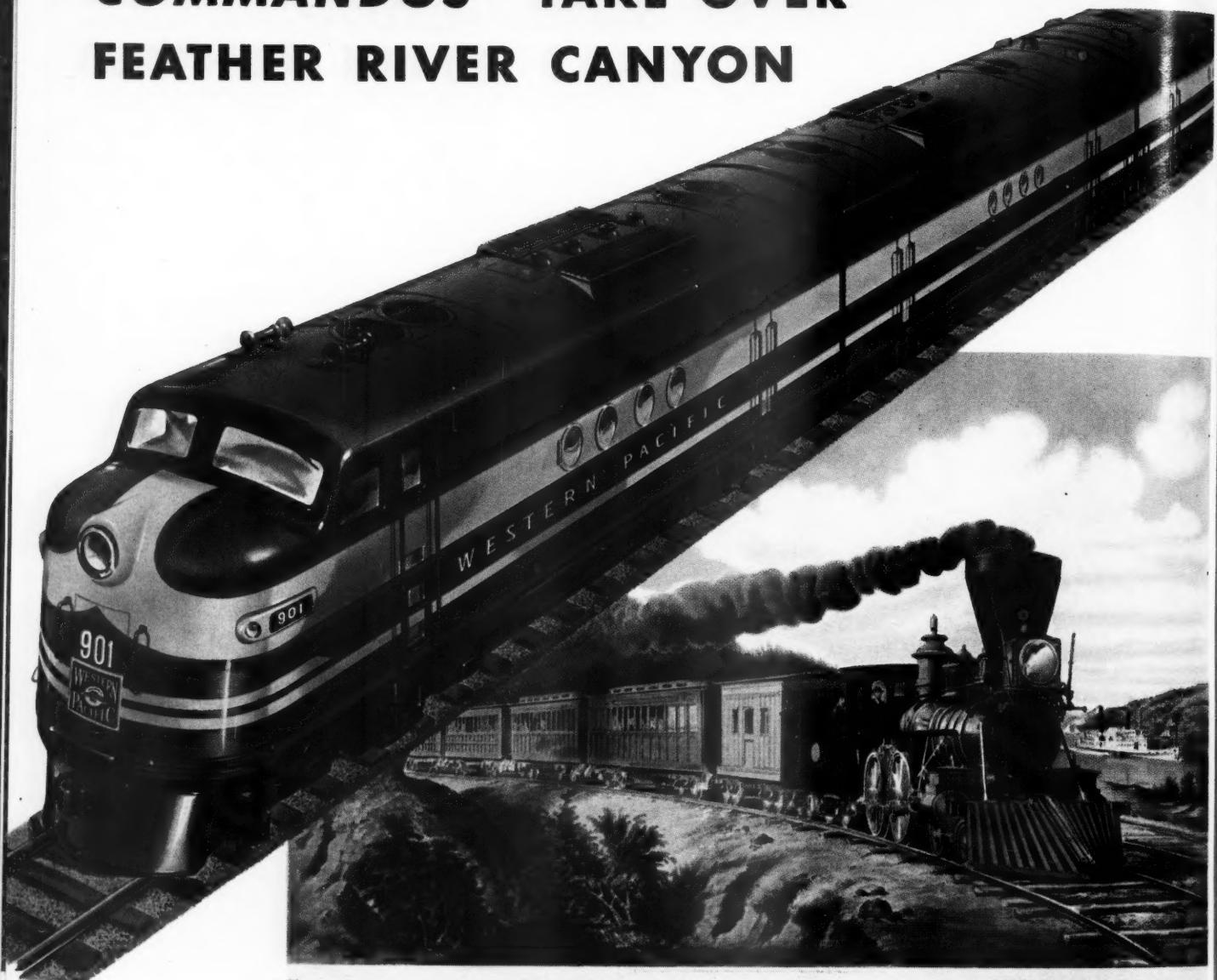
HIGHER RATES NOT ASKED: When the I.C.C., at the instance of the O.P.A., on May 15 removed the freight rate increases the railroads had been granted to compensate for wage increases, exacted by the unions on the eve of Pearl Harbor, the suspension was made temporary—only to January 1, 1944. The I.C.C. recently asked the carriers to "show cause" why the rate increases should not be further suspended; and the railroads have said they will not oppose a further suspension until July 1, 1944.

WINDOWLESS DINERS: Temporary dining cars have been made from standard express cars on the C. & O. (taking advantage of the added length which absence of vestibules affords). To simplify the conversion job (and post-war reconversion) no windows have been provided. The cars are illustrated and described in a brief article in this issue.

McADOO MECHANICS AGAIN?: There has developed a good deal of zeal for the accomplishments of "specialized" mechanics—out of the war's experience which has forced this expedient, with the specialists often giving a good account of themselves. An editorial herein recalls that railroad mechanics acquire seniority rights, which enable them to bid in on jobs they have not been doing—and, if their training is too "specialized", they may waste a lot of time in learning new jobs or in demonstrating their inability to qualify. It is suggested that the carriers still need all-round mechanics.

ARMY AID THIS WINTER? When crops, during the recent harvest season, in some spots, threatened to rot in the fields for lack of help to bring them in—the Army in many instances came to the rescue. The railroads almost always have emergencies to deal with in the winter—a blizzard here, a deep freeze there, and even floods. These crises always call for extra men, if bad tie-ups are to be avoided; and where are these extra men to come from this year? An editorial herein suggests that the situation be candidly laid before the Army—which has such a vital stake in continued maximum railroad performance—to see whether it may not, without inconvenience to its own program, give the railroads the needed help, in spots and temporarily, where the weather may behave with unusual violence.

"COMMANDOS" TAKE OVER FEATHER RIVER CANYON



AMERICAN EXPRESS TRAIN.

Here is a crack "Express Train" of 1865 as pictured by Currier & Ives. Four years later an important new era in our transportation and economic history was celebrated with the completion of the first railroad linking the Atlantic and Pacific.

THROUGHOUT history, wars have set up new milestones of transportation progress. In this war, General Motors Diesel Locomotives are ushering in the new era. What advances the future will bring are already apparent in the present outstanding performance of these locomotives in helping the railroads to meet the unprecedented traffic demands. The movement of war materials has more than doubled the normal volume of freight hauled by the Western Pacific Railroad between Salt Lake City and the Pacific Coast through the Feather River Canyon. Wherever the going is toughest on this route, General Motors Freight Diesels have been the "commandos" of the motive power which has kept this constant stream of vital materiel moving steadily toward our fighting men and our Allies.



★ KEEP AMERICA STRONG

GENERAL MOTORS
LOCOMOTIVES

BUY MORE WAR BONDS ★

ELECTRO-MOTIVE DIVISION

GENERAL MOTORS CORPORATION

LA GRANGE, ILLINOIS, U.S.A.

RAILWAY AGE

"Democratic Process" Versus "Economic Power"

Current labor troubles, especially in the coal mines and on the railroads, illustrate how a minority group may try selfishly to dominate the nation while pretending to be the bulwark of "democracy."

Twenty-three per cent of the country's people live on farms; 43½ per cent on farms and in places of 2,500 population or less; 52.4 per cent on farms and in places of 10,000 or less; and 66 per cent on farms and in places of 50,000 or less. Many members of labor unions live in small cities and towns; but those who do are outnumbered by adults living in cities who are not members of unions. Therefore, labor unions undoubtedly represent less than one-third of the population. Yet union leaders advocate what they call the "democratic process" and claim their activities promote political as well as "economic" democracy and are in the interest of a majority of the people.

What is the "democratic process" in settling labor disputes? The "Railway Clerk," organ of an important labor union, declared recently that the recommendations for advances in wages made by an Emergency Board "should have ended the matter." The Board referred to was appointed by a President well known to be partial to organized labor. The Railway Labor Act provides for settlements by arbitration if the parties to a labor dispute will agree to arbitration. Why, then, should not railway labor unions agree to settle by arbitration, instead of regularly refusing to do so, and thereby virtually necessitating the appointment of Emergency Boards?

However, the principle that when settlements cannot be secured by collective bargaining, mediation or agreements to arbitrate, they should be made as recommended by Emergency Boards, is in accordance with the "democratic process," as well as with the plain intent of the Railway Labor Act. The reason why it has become increasingly difficult or impossible to secure settlements by any of these means is that labor leaders prefer trying to get more by using their "economic power," and often have succeeded in doing so. But their "economic power" is simply the power of monopolies to coerce employers, government officials and the public by strikes and threats of strikes. In other words, the labor unions are unwilling to rely, when it does not suit their purpose, on the "democratic process" which they profess to favor, but insist upon reserving the privilege of using against two-thirds of the country's population the same kind of "power politics," backed by force or threats of force, that we are fighting the world's aggressor nations for using.

The use of such "power politics" by private organizations professing devotion to the "democratic process" is hypocritical and a dangerous form of fascism even in time of peace, and is much worse in time of war. It curtails production and threatens inflation in time of war; and it tends to force war-time increases in production and transportation costs that will be even more inflationary and inimical to full production and employment after the war. The American people cannot afford, while fighting on every foreign front to establish freedom abroad, to tolerate developments plainly tending and intended to establish lasting domination in their affairs by a one-third minority at home.

In flouting the "democratic process" and resorting to their "economic power" in time of war to nullify the anti-inflation policies of an administration notoriously friendly to them, the labor unions may know what they are doing. But possibly they do not. They are inviting very strong defensive action by the two-thirds, at least, of the

Efficiency
FOR VICTORY

people that they do not represent. And it will be surprising if, in view of what is occurring, the two-thirds do not decide to find out whether the "democratic process" does not afford them enough political power to curb the other third's "economic power."

Transportation Efficiency

The program for increased transportation efficiency advocated by Joseph B. Eastman, director of the Office of Defense Transportation, at the recent annual meeting of the National Association of Shippers Advisory Boards, may be feasible, but its success will require even greater co-operation between the railroads themselves and between shippers and railroads. The program calls for a 10 per cent increase in the efficiency of use of existing equipment and other facilities. This would result, presumably, in an increase of 10 per cent in ton-miles of service rendered with these facilities. Revenue ton-mileage in 1940 was 373 billion; in 1941, 475 billion; in 1942, 638 billion; and will be in 1943—assuming an increase for the year of 15 per cent—about 734 billion. An increase of 10 per cent over 1943 would be 808 billion ton-miles—an increase of 117 per cent over 1940; of 70 per cent over 1941; and of 27 per cent over 1942.

The goal seems high, in view of recent shortages of cars and of the fact that the condition of equipment as a whole can hardly fail to deteriorate under present government restrictions on materials and manpower. The hope that the goal can be attained can be based only on the belief that there is still slack that can be taken up; but, obviously, the more efficiency is increased, the less opportunity is left for increasing it by the same means. However, until perfection is attained, there is always room for improvement; and nobody will contend that perfection in the use of available facilities has yet been achieved.

On the part of the shippers, upon whom much of the responsibility rests, there is still need for fuller realization that it is essential completely to sacrifice for the duration many privileges enjoyed in peacetime. Many practices which still waste car-days are of a minor nature, but much in the aggregate can be accomplished by eliminating them. They include failure to unload cars completely and to load and unload them as promptly as humanly possible. There can be more routing of cars to use a minimum of car-days; better spacing of shipments to avoid bunching at destinations; heavier loading; better spacing of shipments to avoid transportation peaks; and more scheduling of shipments over routes that are not overloaded.

Among car-wasting practices pursued for selfish reasons are circuitous routing, reconsignment to gain a few cents' advantage in another market, and purchase of materials at unnecessarily distant points because of price, political or other considerations. The

St. Louis smoke ordinance, which requires the purchase of low volatile coal in distant markets, is an example. According to the Mid-West Shippers Advisory Board, the purchase of coal nearer to St. Louis would save 67,000 car-days annually.

The railroads can still—although with difficulty and perhaps at increased cost—increase their efficiency of operation. Specific suggestions are prompter spotting of cars, prompter switching of cars after shipper release, reduction of the number of cars used for hauling company material and for storage, shorter routing of empty cars, more expedited repair of cars, and more advance classification of cars to avoid intermediate switching and car delay:

After efficiency has been increased as much as it has, to increase it 10 per cent more would be one of the truly great achievements of the war.

Training Mechanics in Post-War Period

Urgent necessity has forced railroad mechanical departments since Pearl Harbor to accelerate training methods for mechanics. Fairly satisfactory results have been obtained by giving specialized training to new workers, which has enabled them to perform a limited number of jobs successfully. Some railroad officers even predict that we have seen the last of the four-year apprentice training courses on the railroads and in industry. They point out with some justification that young men, and older men as well, have been quick to grasp the rudiments of craftsmanship and are giving a good account of themselves, both as to quantity and quality of output.

It must be remembered, however, that railroad shop mechanics, engaged in repair and maintenance work, should have an all-around and thorough knowledge of their trades. Under the seniority rules, now recognized generally in the railroad mechanical crafts, men can bid in jobs quite different from those on which they have been working and must be given, at least, a fair trial to demonstrate their ability to perform them satisfactorily. "Specialists," or poorly trained workers, cannot always make good under these circumstances, but it is sometimes a slow and costly process to demonstrate that they cannot.

If, on the other hand, the apprentices are thoroughly trained on a schedule which covers all types of work in their craft, they can readily adapt themselves to new and quite different assignments. The thoroughly trained mechanic, with a background of technical training such as is incorporated in our best apprentice training courses, is a joy to his employer and has exceptional opportunities open to him for advancement in his trade and to a supervisory position, especially if he recognizes the importance of continuing his studies, to the end that he may more readily adapt himself to

changing conditions and new practices. Undoubtedly we shall see steady and, in some instances, probably radical changes in railroad equipment and facilities in the immediate post-war years.

The railroads will have to fight hard to maintain their competitive position in the transportation field, and this will require men in the ranks with a training and versatility far beyond that of the so-called "specialists" or half-trained mechanics. Even at this late date we are still suffering in some places from the so-called "McAdoo mechanics," who have survived from the days of the Railroad Administration in the first World War.

The pre-war apprentice training systems can undoubtedly be improved upon in many places, but great care must be taken to see that they are improved upon and not replaced with something that may result in "half-baked" artisans, who cannot function successfully under the more exacting conditions to which they will be subjected in maintaining and repairing equipment, which in all probability will demand closer tolerances and finer workmanship than ever before.

Co-ordinated Transport Deserves a Chance to Compete

"There is a move afoot to hamstring the railroads, to prevent them from furnishing adequate service. No facts have been adduced. No analysis has been made. No sound theory has been advanced. Successful foreign experience has been ignored. On October 20, Vice-President Wallace at Dallas charged the railroads with 'elimination of competition . . . of newer and cheaper forms of transport.'

"Senator Burton K. Wheeler, chairman of the Committee on Interstate Commerce, addressing the Senate on July 1, said: 'I intend to introduce proposed legislation to prevent railroads from owning buses and trucks.'

"But co-ordination of railroads with trucks, buses, waterways and airlines has benefits. Prohibition of co-ordination has serious evils. The chief beneficiaries of co-ordination are the shipper, the ultimate consumer and the traveler. They will all suffer if co-ordination is prohibited. . . .

"The theory of Senator Wheeler and Vice-President Wallace is, presumably, that the railroads would throttle competing transportation agencies. But the contrary is true. The most rapid rise in competitive transportation agencies has been during the period when railroads have been free to have a financial interest in trucks and buses. If such artificial competition is enforced, the results will be losses to the investor and bad service to the public. . . .

"The government should encourage co-ordination. We have experience with independent transport agencies, airlines, waterways, trucks and railroads. Why should we not experiment with co-ordinated transport, competing with independent transport, all under rules of the I. C. C.? We might discover possibilities of economies, efficiency and service. Our national policy should encourage development of every mode of transport, as Vice-President Wallace says. Who owns it is immaterial. Public convenience and necessity is the determinant."

—Economist Elisha M. Friedman in the N. Y. Times

Help in Winter Storms

The railways are approaching the winter with a labor situation that presents cause for serious concern, especially to those operating and maintenance of way officers who face the necessity of keeping traffic moving in busy terminals during severe blizzards. Normally the railways are able to call upon the large numbers of casual laborers who drift in from construction activities as they close down in the autumn, and who congregate in the boarding houses and hotels in the labor centers.

When the need has arisen, the railways have heretofore been able to recruit enough men on short notice, and have thus been able to keep their tracks, interlockings and platforms open when storms have come, or to reopen them quickly.

This year conditions are different. There are not now and will not be men available in these quarters, for those who are physically able are employed and will continue to be employed in war industries at wages exceeding all previous experience. And this condition exists when the movement of traffic will be more important to the nation's welfare than ever before—munitions and supplies for our armed forces, coal to fill depleted bins, etc. The outlook is such as to cause serious concern.

The railways can, and of course will, see that all available snow fighting equipment, snow melters, switch heaters, and snow loading equipment are ready for use. They have done this in previous years. They will provide additional units where they can be secured, but priorities limit relief from this source. Dependence must be placed in large degree on additional men, during the height of emergencies, at least.

Confronted with situations that were no more acute in the harvest fields in recent months, arrangements were made with military authorities in several instances for men in nearby camps to be furloughed for sufficient periods to assist in gathering farm crops, and their aid was substantial. This procedure points to a possibility for relief for the railways. Large numbers of men are now in training throughout the country. Many of the camps are near the larger railway centers. The men therein are able bodied and fit. It would appear logical, therefore, that they become a reserve force to aid the railways in meeting winter emergencies. The need, in the national interest, will be as great as it was on the farms in recent months, and no less immediately connected with military victory.

If such resources are to be made available, it is necessary that steps be taken promptly to develop the possibilities and work out the details. As the problem is continent-wide throughout the northern states, action might well be initiated by the Association of American Railways in behalf of all the railways in this area, in preference to separate approach by individual railways. It is none too early to explore the possibilities.

Army Railroaders Encounter Novel Operating Methods in Africa*

Aspects of signals differ widely from U.S. practice—Our “highball” means “stop” over there—Interlockings are mechanical, with pull wires 8 ft. high—No track circuits



Sgt. James H. McLaughlin, of Salt Lake City, Utah, a Conductor with the 759th Railway Operating Battalion Somewhere in North Africa, Hand Signals by the French Method to the Engine Crew of a Train to Stop

AMERICAN railroad men who are now serving in North Africa with the Military Railway Service of the United States Army report that, while operating practices on the railways in Africa differ from those employed in the United States, they are interesting and are effective in moving the war traffic. One of the greatest problems for the Americans has been to accustom themselves to lefthand operation and to the various signal aspects and indications.

Railway construction and operating practices in North Africa are based on French principles and practices; consequently trains are operated on the left-hand track while signals are located at the left of the track which they govern. Automatic block signaling is not used to any extent because of the steel ties in most of the main tracks which prevent the use of track circuits.

On some parts of these railroads, train movements

are authorized by the electric train staff system, using line wire circuits between staff machines at each end of the block sections. The system is so controlled that only one staff can be removed at any one time, and no train is allowed to enter a track section without carrying a staff.

On numerous other parts of the railroads in North Africa, train movements from station-to-station are authorized by a form of manual block which is under the direct control of the station masters. This block is operated by means of a station-to-station telephone called the “omnibus circuit” without signals. When a train arrives at a station, the conductor reports to the station master, who then takes charge of the train. If any switching is required, this is done under the station master's directions. On completion of this work, the station master calls the station master at the next station on the “omnibus telephone” and, the intervening line being free of trains, secures permission for the train to advance to that station.

Hand Signals Reverse of U. S. Practice

Hand signals employed in North Africa also differ from those used in the United States. They are executed by day with a yellow or red flag, and at night with a white, yellow or red lantern. By day, a flag rolled up or in its case indicates “clear.” A yellow flag indicates “reduce speed” and a red flag indicates “stop.” In the absence of a red light, any light waved violently indicates “stop.” The stop signal is also given by raising both arms to their fullest extent above the head.

In switching movements, the signal to start is given by waving a rolled-up flag or arm horizontally during the day, and a white light at night. The signal to stop is given by day either by waving the arm or a rolled flag vertically, and by night by waving a white light vertically. Similarly, an unfurled red flag or red light placed between or adjacent to the rails indicates “stop”; an unfurled yellow flag, board or light indicates “reduce speed,” and a rolled or cased flag or a white board by day and a white lamp at night indicate “resume speed.” The green flag and light are not used.

Wide Use of Torpedoes

Torpedoes are used by day and night as warning signals to maintain regular intervals between trains and to supplement hand or fixed signals. They are always used with hand signals where there are no fixed signals, except where hand signals are given by crossing watchmen; hand signals denoting speed reductions which are

This article is abstracted from information supplied by the Bureau of Public Relations of the War Department.

covered by special bulletins; and where hand signals are given for the protection of maintenance-of-way cars. They are used when a train movement or obstruction is protected by a red disk-target signal, except when weather conditions do not permit the signal to be seen more than 109 yards or in tunnels; when lanterns cannot be kept lighted; where it is impossible to remain in position to give hand signals; and at all times when necessary to protect a train on a main line five or ten minutes before the arrival of a train at a station. Torpedoes are placed on both rails about 27 yards apart. In wet weather three torpedoes are used, spaced as mentioned. Torpedoes are placed 27 yards in the rear of hand signals. Certain fixed signals are repeated on the track by torpedoes.

Mechanically-operated torpedo-placing machines, wire-connected to a lever in the tower, are used in North Africa. With the signal at "stop" and torpedoes on the rail, a train moving past the signal at "stop" will explode the torpedoes. Torpedoes are not placed at stations or on crossings.

Whistles and Horns Are Used

Whistle or horn signals given by trainmen include two long blasts for "proceed," three long blasts indicate "back," and several short blasts indicate "stop."

A bell is located on the engine tender, which is connected with the first car by a rope. One clap of the bell is a signal for the engineman to stop. The tender bell is used only if the car occupied by the brakeman is not connected to the automatic brake or if, being so connected, it is fitted with a valve actuating this brake.

Engine whistle signals include one long blast for "ready to start;" two short blasts for "apply brakes," and two short blasts repeated at short intervals for "apply brakes tighter."

One short blast indicates "release brakes." When it is intended to stop and switch, five prolonged blasts of the whistle are given.

The rear ends of trains by day are ordinarily marked by red boards or lanterns with a white board at the lower end of the last car. At night a train ordinarily carries at least one white light on the head end and a red lantern and two more horizontal red lanterns higher up on the rear of the last car. These lanterns on the upper rear of the last car show white to the front and red to the rear, and can be placed on the next to the last car if necessary. The two white lights need not show white ahead at night if the car on which they are placed is connected to the automatic brake line. Trains moving less than three miles per hour at night carry only one red light to the rear.

A North African train moving against the current of traffic outside of a station on a double track line carries a red flag or board on the front of the engine by day and a red light, in addition to the usual white light, by night.

Trains on double track only, carrying signals for a following section, display a red flag by day in the upper right hand corner of the rear car or the next to the last car. Classification is denoted by lamps on the rear of the train. Two yellow lights by night in place of the usual red lights on the rear car or next to the last car, supplementing the red flag by day, indicate on double track only that another section is following. Trains carrying signals for a following second class train display a yellow flag by day in the upper left corner of the rear car or the next to the rear car. A yellow light by night in the upper left-hand corner and



Passing Semaphore and Red Disc Target Signal at Stop

a red light in the upper right-hand corner, in addition to the lower red light on the rear car, indicate a following second class train. Trains carrying signals for a following extra train carry a yellow flag in the upper right-hand corner of the rear car by day. By night, a yellow light is displayed in the upper right-hand corner and a red light in the upper left corner, plus the lower red light, besides the lower red light on the rear car or the next to the rear car. Light engines carrying signals for a following second class train display a yellow flag by day on the left side on the rear. By night, a yellow light is displayed on the left of the usual red light.

Light engines displaying signals for following extra trains carry on the rear a yellow flag by day on the right side, and a yellow light on the right side of the usual red one at night.

Mechanical Interlockings

Interlockings are of the mechanical type, using Saxby & Farmer type machines, the locking bed being in a vertical plane and mounted over the machine. The switches are operated by pipe or "rod" connections from the levers to the switches in the usual manner. Since steel ties preclude the use of track circuits, no detector locking or route locking can be provided in these interlocking plants. Electrical circuits are provided to control signal repeater indicators and a few electric locks;

but, for the most part, signals in North Africa are operated mechanically by means of wire-pull lines extending from the levers to the signals. These wires are ordinarily No. 8 bare iron and are run on rollers which are mounted on sections of rail about 8 ft. high so that men walking on the ground will not trip over or damage the wires.

Two types of signals, semaphores and rotating disks, are used. The semaphore blades are square end, and are painted red on the face and white on the back. As viewed from an approaching locomotive, a semaphore arm is mounted to the left of its mast and moves in the lower left-hand quadrant. The "clear" aspect is provided with the arm in the vertical position parallel with the mast and at night by a lunar-white light. The "stop" aspect is with the arm horizontal and with a green and a red light at night, the green being on the left and the red on the right. A portion of the blade extends to the right of the center line of the mast when in the horizontal position.

Rotating Target Signals

The target type of signal is also used in North Africa, being mounted on a vertical shaft at the center and operated by wire-pull lines. When in the clear position, the target is turned on its vertical shaft so that the edge of the target is seen by an engineman of an approaching train.

For use as an absolute "stop" signal, the target is square, and the face is divided into two red and two white squares, as shown in one of the illustrations. The "clear" aspect is given by day with the target turned parallel with the track to present an edge to the view of enginemen, and at night by a single lunar-white light. Concurrently with the display of a lunar-white to the front, a blue light is displayed to the back as a so-called "back" light. The "stop" indication is given with the target turned at right angles to the track, and at night by two red lights horizontally to the front, and a white "back" light to the rear.

A circular disk target signal is painted on the face in red, with a black and white outer border, and on

the back in white. The disk parallel to the track, and out of sight by day, and a lunar-white light by night, indicate "clear." The disk at right angles to the track by day and a single red light at night, indicate to the engineman to be prepared to stop at the next signal or switch. The back-light indication of the signal is white for both positions.



Capt. F. J. Murphy Observing the Towerman Operating the Railroad Telephone Communication Equipment in a Signal Tower Somewhere in North Africa

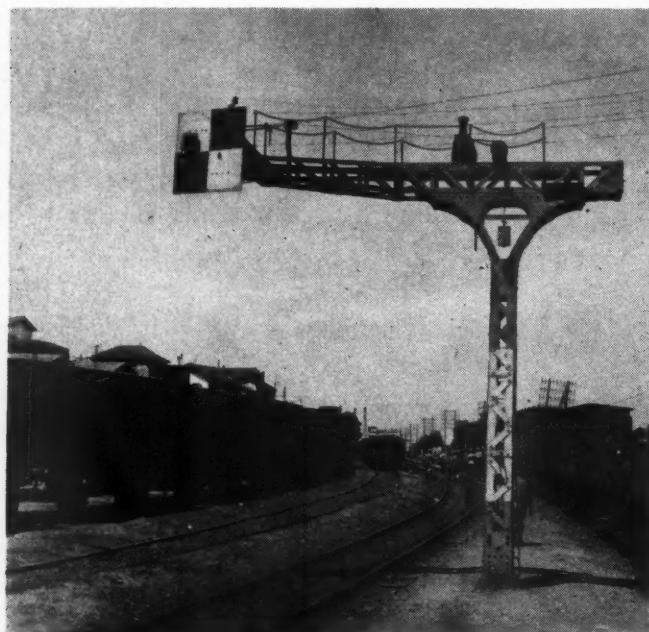
The red disk-target signal at "stop" can be passed by light engines and trains with air brakes at 16 m.p.h., and by trains without air brakes at a speed no greater than a man can walk. On curves, this signal is preceded by one to three marker boards spaced 164 yds. apart. These boards have three, two and one diagonal stripes, respectively.

The Purple Target

A square-target signal is used in yards, painted purple on the face and white on the back. The target parallel to the track and out of sight by day, and a white light at night, indicate "clear." The target at right angles to the track by day, and a purple light by night, indicate "stop."

The blue disk-target signal is used in stations for reverse movement, the disk being painted blue on both sides, and at night, it is capable of showing either a white or blue light in each direction.

The "reduce-speed" signal is a yellow triangular target with the point of the triangle up. It has a vertical black stripe and a black and white outside border. The target parallel to the track by day, and a lunar-white light by night, indicate "clear." The triangle at right angles to the track by day, and two horizontal yellow lights by night, indicate reduce speed to not exceeding 19 miles per hour.



Red and White Square-Target Signal

Luxuriance of imagination or energy of language will ill compensate for the want of candor, of justice and of truth. . . . Courage is reckoned the greatest of all virtues; because, unless a man has that virtue, he has no security for preserving any other. . . . A tree that produces a great many crabs is better than a tree which produces only a few.—DR. SAMUEL JOHNSON.

"Special" Board Hears Non-op Case

Sits only one day, the presentations being confined to legal arguments of counsel for the parties and statements from Director Eastman of ODT; strike called "unthinkable"

WASHINGTON, D. C.

PRESIDENT Roosevelt's "special emergency board" concluded in one day its public hearing on the non-op wage controversy, the presentations being confined to legal arguments of counsel for the parties and a statement from Director Eastman of the Office of Defense Transportation who avoided passing upon the merits of the case but expressed his "conviction" that "the failure to decide this matter definitely is now causing disturbance of the morale of railroad employees" and that "there is danger that the performance by the railroads of their immensely important part in the war effort will be seriously impaired unless this condition is soon corrected." The hearing was held in Washington, D. C., on October 30.

Members of the board are Chairman Elwyn R. Shaw, chief justice of the Supreme Court of Illinois, Richard F. Mitchell, former chief judge of the Supreme Court of Iowa, and Walter C. Clephane, Washington, D. C., attorney. They have the job of reconsidering the case in the light of Economic Stabilization Director Fred M. Vinson's June 30 opinion. That opinion, a follow-through from the stay order of June 22, rejected the eight-cents-per-hour increase recommended by the National Railway Labor Panel emergency board which heard the case originally, but indicated Judge Vinson's disposition to approve a sliding-scale adjustment which would give larger increases to the lower-paid employees.

Subsequent to the Vinson action, union and management representatives on August 7 signed an agreement embodying a straight eight-cent increase. The failure to obtain government approval of this agreement has brought the non-op strike threat, the strike ballots, returnable November 25, having gone out last week.

Strike "Unthinkable"

Mr. Eastman asserted that a strike was "unthinkable," a word which was later used in the same connection by J. Aronson, vice-president of the New York Central and counsel for the Carriers Conference Committees, when he recorded management's disapproval of the strike-ballot procedure. Members of the board expressed similar views from time to time during the hearing. "We can only hope," said Mr. Aronson, "that the considered judgment of American railroad employees will impel them to vote against any such action. Notwithstanding the tendency of the strike vote, railroad management will continue to cooperate in every possible way to the end that an orderly and dispassionate solution may be attained."

When the strike ballot was offered for the record, Chairman Shaw called attention to the fact that it was not a secret ballot. It requires that the voter set down his name; address; occupation; the name of the carrier for which he works; the name of the labor organization to which he belongs; the local or division number; and his membership number. Voters who are

not members of any of the 15 non-op unions are called upon to show this non-member status.

Generally, the labor organizations, represented by Donald R. Richberg, took the position that the August 7 agreement with the carriers "is a valid and binding contract which is legally enforceable in behalf of the employees regardless of any action or non-action of approval or disapproval by any government authority." In confining himself to a legal argument on that proposition, Mr. Richberg asserted that the board should be regarded by the parties "as a purely advisory board to which no questions can or should be properly presented for decision." As noted briefly in the *Railway Age* of October 30, page 694, he called for a report advising the President "that the claims of the non-operating employees for wage adjustments have been settled by a lawful agreement between the carriers and their employees, and that there should be no interference by officers of the federal government with the carrying out of the terms of the agreement of August 7, 1943."

Why Railroads Favor Straight Eight Cents

The Carriers Conference Committees, on the other hand, took the position that the agreement is not self-executing without the approval of government authority. In that connection, Mr. Aronson relied on that clause of the agreement which reads as follows: "This agreement is subject to any existing requirements of law. Representatives, designated by the respective parties shall advise the President of the United States of this agreement, and will, so far as possible, agree upon and furnish to the President any information he may require." Incidentally, publication of the agreement, which was embodied in the Richberg presentation, revealed that it called for a straight eight-cent increase, as had been generally reported. There were no sliding scale provisions.

Mr. Aronson's argument as to why the straight-line increase of eight cents an hour should merit approval under the stabilization program has been appraised as one calculated to preclude an award to the non-ops of time-and-one-half pay for weekly hours worked in excess of 40. President Roosevelt has indicated that he favors putting them on that overtime-pay basis.

The Aronson argument ran like this: The effect of the sliding-scale adjustment which Mr. Vinson suggested, plus an award of time-and-one-half for the last eight hours of the non-ops' 48-hour week would be a tendency toward a flat cents-per-hour adjustment. In other words, the lower paid employees would get more from the sliding-scale phase, but the higher-paid groups would fare better from the overtime-pay angle.

"Judge Vinson's memorandum of June 30th," Mr. Aronson said, "did not foreclose any railroad wage increase but remanded the issue for further consider-

ation. . . . Judge Vinson's memorandum does not foreclose consideration of an increase as an offset to the absence of the 40-hour week overtime rule in the railroad industry." Previously the N. Y. C. vice-president had asserted that in the railroad industry a 40-hour week "is impracticable," recalling how the labor organizations had taken that position when they succeeded in having the industry excluded from the "hours" provisions of the Fair Labor Standards Act.

He did concede, however, that the mandatory requirement of the 48-hour week, with time-and-one-half in excess of 40 "produces a current situation where the offsetting peace-time advantages are overlooked and railroad employees feel that they are at a disadvantage in comparison with others." Thus Mr. Aronson made it plain that he was not suggesting that the board was empowered to recommend a 40-hour week in the railroad industry; he was merely expressing the view that "a substantial part of the eight-cent wage increase may be warranted as compensation for or as an offset to the absence of such a rule in the railroad industry." The failure of the labor organizations to present this management point of view, Mr. Aronson suggested, "very probably accounts for the failure of the organizations heretofore to secure governmental approval of the agreement."

Richberg Challenges Validity of Vinson Action

Meanwhile, Mr. Richberg had developed his argument. He found that any authority in the President of Judge Vinson to set aside the agreement must be found in the Stabilization Act of October 2, 1942, and the regulations issued thereunder. But it was Mr. Richberg's position that the Stabilization Act did not authorize the President to suspend any other law, and he "was specifically forbidden to suspend the Railway Labor Act." Moreover, he pointed out, the Stabilization Act ran only to wages which affect the cost of living, whereas the increases proposed in the agreement "admittedly do not furnish the basis for increased transportation rates and have no effect upon the cost of living."

Mr. Aronson did not go along with the "admittedly" in the foregoing. He did not understand that the possible effect of the increase on rates had been discussed in conferences leading to the agreement. Chairman Shaw asked if there had been any admission on the part of the government that the proposed increase would not affect the cost of living; and Mr. Richberg replied that he had understood that "there is agreement" that an increase totaling \$204,000,000 a year was not being disapproved—the dispute was as to the division of that amount among the various employee groups.

Judge Vinson's June 30 opinion, Mr. Richberg argued, may be regarded "as having no legal consequence," because it was directed to something which had no legal consequence, i.e., recommendations of an emergency board. Nevertheless, he went on, the opinion has had the effect "of at least clouding the validity and enforceability of a contract between the carriers and their employees." When Mr. Richberg pointed out that the carriers have not offered to pay the eight cents, Mr. Aronson broke in to say they hadn't been asked to, "because the labor organizations understood the situation the way we do."

At this point and at other times throughout the Richberg presentation there were questions by board members as to why the unions, in their confidence that

they had an enforceable contract, did not go into court with an application for a writ of mandamus compelling some railroad to issue its pay checks on the basis of the agreement. Mr. Clephane suggested that such a course would be better than the strike-ballot device in times like the present. Mr. Richberg said his clients were in a "peculiar position" in that they had no quarrel with the carriers; and he knew of no process whereby a court case could be disposed of in less than a year.

Chairman Shaw thought that procedures of the Supreme Court of Illinois would be more expeditious than that. Later Mr. Aronson told the board that if there is any suggestion of testing out the agreement in court, the carriers "will cooperate to the last degree" in bringing about the most expeditious disposition of the case. Meanwhile, he said, management is not challenging the validity of the executive orders issued under the stabilization program—"we're not going to sit in review on the President of the United States." And management can find in those orders "no loophole" permitting the execution of the agreement without government approval.

At the close of the Aronson presentation, Chairman Shaw asked if the parties had anything to offer in the way of sliding-scale proposals, such as, the chairman said, had been mentioned at an informal conference which the board held with the parties a few days prior to the hearing. Mr. Aronson replied that management was not in a position to suggest anything other than the eight-cents agreement—to do so would be "breaking faith." Neither did labor have anything to offer, although Mr. Richberg pointed out that an eight-cents-per-hour adjustment "is in itself a sliding scale" in that it involves larger increases percentagewise for the lower paid groups. Earlier Chairman Shaw had observed that the board construed its authority more broadly than did Mr. Richberg; and the chairman let the record show that the board was on hand to hear anything the parties wanted to present.

Short Lines and Express Agency

C. A. Miller, vice-president and general counsel of the American Short Line Railroad Association, expressed his belief that most of the short lines would agree to pay the increases proposed in the August 7 agreement to the extent that they could afford it. They could not agree to the 54-cent minimum wage provision, however. A. M. Hartung, vice-president of the Railway Express Agency, Inc., read a letter he had sent to Judge Vinson, expressing the view that the Vinson opinion disapproving the eight-cent increase for "non-operating railroad employees" did not apply to Express Agency employees. The only reply received up to the time of the hearing was an acknowledgement, but Mr. Hartung said that the unions had not yet requested that the raise be paid.

The "substandard" test suggested in the Vinson opinion, he went on, could not be applied to R. E. A. employees whose average rate of pay is 93 cents an hour. R. E. A., he added, has experienced "no acute manpower shortage." Mr. Hartung conceded that the express workers might make out a case for a 2.95 per cent increase under the "Little Steel" formula, but he pointed out that they would not thus qualify if consideration were given to the fact that their work week had been shortened from 48 to 44 hours.

O. D. T. Director Eastman appeared at the request of the board and "without consultation with any other agency of the government." He spoke of the indispen-

ability of railroad service to the war effort, praising the performance so far but warning that the railroad industry's duties "are far from over." Even when victory comes, the O. D. T. director thinks there may be "heavy work for the railroads to perform in the post-war period of demobilization and world readjustment."

Mr. Eastman recalled his recent prediction that the next six months will be "a most critical period for the railroads," and referred to the current railroad-shipper campaign to raise operating efficiency by at least 10 per cent. He then paid tribute to the "loyal and hearty cooperation of the employees." He noted that he has had differences of opinion with them, "or rather with their duly selected representatives," and that he expects to have such differences of opinion in the future.

"Nevertheless," the O. D. T. director went on, "the railroad employees are as fine a body of workers as our country possesses, and in general they are deeply patriotic."

The railroad executives will testify with one accord, and the statistics will attest the fact, that the employees have been working faithfully and effectively and on the average for long hours ever since the emergency began."

Eastman Doesn't Believe Strike Will Come

Leading up to his assertion that a strike is "unthinkable," Mr. Eastman stated that "any stoppage of railroad service, for even a short period of time, because of the refusal of employees to work, would damage our war effort to a degree which I believe to be beyond the present power of any of our enemies." Personally, he does not believe "that it ever will happen." He is, however, concerned about the possible effect on employee morale of the failure to settle the wage question more expeditiously; for "the campaign to increase railroad operating efficiency 10 per cent . . . cannot possibly succeed without the earnest and whole-hearted cooperation of the employees."

The O. D. T. director then discussed railroad manpower problems, stating that there has been a "constant drift" of employees, particularly the non-ops, "to better-paid work in war production plants." He stressed the importance of the non-ops in the railroad picture, citing the roles of maintenance-of-way workers and equipment repair forces, the latter being "for the most part, mechanics of large experience and skill . . . who can readily find employment at higher wages in the war production plants." Mr. Eastman even suggested that the failure to settle the wage case "may well have had an effect" on the Mexican government's action refusing to consent to further importations of Mexican nationals for track work.

Coming to the controversy before the board, the O. D. T. director called it "unusual" in that there is no controversy between management and labor. He said he "would not, and could not if I would," criticize the action of Judge Vinson, but Mr. Eastman does not understand that the economic stabilization director precluded an increase. Hence his hope that the matter will be settled as expeditiously as possible. As Mr. Eastman put it:

"My hope is that you will reach your conclusions as speedily as possible, and that, in reaching them, you will give such consideration to the conditions which I have described as you find to be possible. I believe that the railroad employees realize that the part which they play in the war effort is, while less dangerous,

quite as necessary and important as the work which the men in our fighting forces are called upon to do, and that they want to continue to play that part faithfully. They have been disturbed and perturbed by the long delay in this matter and by a consequent feeling of injustice.

"Nevertheless, my confidence in their character and patriotism is such that I believe they will accept such decision as the President may make on the basis of your recommendations, provided the necessity for that decision is made clear in the light of the governing law and the good of our country under the wartime conditions in which we are now living and the perils which lie ahead."

Board to Report by November 15

Under the executive order creating it, the board has until November 15 to make its report to the President. The order also provides that the recommendations shall become effective 15 days after the filing of the report, "unless and except to the extent that the Economic Stabilization Director otherwise directs."

Further Congressional support for the eight-cent increase came this week when Senator Truman, Democrat of Missouri, introduced Senate Joint Resolution 91 which would stipulate that the agreement of August 7 "is an appropriate and valid settlement of the dispute . . . and is in conformity with existing requirements of law applicable thereto and particularly with the requirements of the Act of October 2, 1942, entitled 'An Act to amend the Emergency Price Control Act of 1942, to aid in preventing inflation, and for other purposes.'"

Day Charges Political Shadow-Boxing

Representatives Day, Republican of Illinois, and Sullivan, Democrat of Nevada, made speeches on the wage question in the House on November 2. Mr. Day reviewed the Administration's handling of the matter, asserting that the present strike threat comes "as a result of all this backtracking, this failure to keep one promise after another, this political shadow-boxing, and one disappointment on top of another." On the record, he added, the railroad employees "should now be fully convinced that the New Deal has become such a raw deal that it is long overdue for a trip to the laundry." Mr. Sullivan also reviewed the wage case which, as he put it, has brought "a national crisis that threatens the successful prosecution of the war." Because he thinks Congress can no longer afford to ignore the situation, he presented his review as background for whatever action may be deemed "imperative."

On the previous day, Representative Gossett, Democrat of Texas, spoke briefly to say that he "cannot believe" that most members of the railway labor organizations, who are "high-class, good American citizens," seriously entertain the idea of striking. To Mr. Gossett it appeared "quite ironical" that he had received that morning in the same mail "a 15-page closely-printed brief purporting to justify the pending threat of a strike by the railroad organizations, and also a reprint of a famous advertisement entitled 'Missing,' showing a little boy whose father was killed in action, climbing the stairway to an empty bedroom."

[This was a Chesapeake & Ohio advertisement.]

"No man with a heart could read this advertisement, and contemplate American casualty lists, and then strike against the country for which our finest young men die," Mr. Gossett said.

Personnel Practices

Why the railways' problem is a special one, and some suggestions for improvement

I SHOULD like first to point out some of the distinguishing features of the personnel problems which confront the transportation industry; then to tell something about personnel administration as I find it in the industry, and particularly on the railroads; and, then, offer some suggestions as to how those of us who are concerned with personnel administration might improve our methods.

First, I know of no industry which employs so many men and women of various skills and professions as does transportation.

Second, these employees are scattered over a vast expanse of territory, as, for example, the approximately 145,000 employees of the New York Central are dispersed throughout thousands of communities over thirty states and in two foreign countries. Some of them work entirely alone and many in small groups with comparatively little direct supervision. This has a tendency to develop individual initiative and self-reliance.

Effect of Widespread Operations

With widely scattered personnel and a minimum of direct supervision, strict rules are necessary in this industry, in the interest of safety and uniformity of practices. The honor system is largely relied upon for the observance and enforcement of such rules. Contrast this situation with that of an industry whose employees are confined within the walls of one or two, or even a dozen, factories or buildings.

Third, transportation, particularly railroading, is an old industry, and the trial-and-error system of experience with numerous personnel practices has played a large part in the development of procedures as they exist today. The average age of employees is higher than that of most other industries.

Fourth, transportation is a public utility with nothing to sell but service, and a larger percentage of the employees meet and deal with the public than is the case with employees of most industries. Comparatively few of the employees of the average manufacturing industry, for example, have occasion to deal with the company's patrons. This function is attended to by highly trained sales forces, but on a railroad the patron comes in direct contact with a large number of employees. This fact alone bespeaks the need for more intensive training in public relations for employees in the transportation industry whose duties require them to meet and deal with the public.

Fifth, by reason of the fact that the railroads are such an old industry and employ so many different crafts and professions, our labor problems are rendered proportionately more complex. The New York Central alone has more than 200 agreements with 26 separate and distinct labor unions, each interested in seeing that no encroachments are made by others upon the work of the craft it represents. Many of our agreements are

This article is an adaptation of an address presented at the O. D. T.'s "Institute for Supervisors of Women Workers in Transportation", in Chicago, October 12.

By L. W. Horning

Vice-President, Personnel, New York Central

complicated and voluminous and are couched in terminology peculiar to the railroad industry, which has a language of its own.

Sixth, our labor relations are governed largely by special laws enacted by Congress and the several states, laws which specify a procedure that is peculiar to the industry. There is, for example, the Railway Labor Act as amended in 1934. This Act established the National Mediation Board and the National Railroad Adjustment Board and provided for the appointment by the President of the United States of special "emergency" or "fact-finding" boards to report "facts" in certain disputes. There is also the Railroad Retirement Act which established a pension system for the employees of the railroads, and a special Act for unemployment insurance; also, the Interstate Commerce Act, under which safety practices are specified. There is, in addition, the Hours of Service Act, and in the several states we find numerous laws specifying the frequency of pay-days, how many men shall constitute a train crew, hours of employment, the age of employees, the number of rest days, and many others of a similar nature. These regulations vary from state to state, which further serves to complicate our personnel situation.

The foregoing are some of the important features which distinguish personnel problems in the transportation industry, and especially of the railroads, from those of other industry.

What a "Personnel Practice" Is

To turn next to personnel practices, I should like first to suggest that personnel administration is a specialized science, not dissimilar to the law, engineering and medicine. Specialists in personnel administration—and I speak from the viewpoint of a student and not as one with years of experience behind him in this field—recognize that there are certain good and bad practices to which there are well-known reactions. The secret of good personnel or labor relations between an employer and his employees is not one hard to discover. In general, to have a good personnel or labor relations the employer must like his employees and the employees must like the employer. There are a multitude of actions and attitudes by which an employer may lead his employees to like him—and on the part of employees to induce a similar feeling on the part of the employer. This multitude of actions and attitudes are called personnel practices.

The establishment and maintenance of foresighted personnel practices are a responsibility of every executive, of every employer. The executive has a duty to

(a) establish objectives, and this being done he must next determine

(b) how far present performance falls short of those

objectives. Having determined where he wants to go and how far away from the destination he is, the executive must then somehow

(c) discover ways and means of closing the gap between actual performance and that which is desired.

In other words, it is the basic function of the executive or manager to determine: (1) what people should do; (2) what people can do, and (3) what people will do.

A Duty to Inspire Employees

To ascertain these things the executive or manager must analyze the work of employees to learn (a) what they are doing and (b) to develop and promote plans which will enable the employees, through proper training, to do better than they are now doing and at the same time inspire them to do so.

This kind of analysis bespeaks a need for a sympathetic understanding of human nature on the part of foremen, officers, and executives. Such an understanding is the very opposite of mechanistic. An organization composed of human beings cannot be built as a machine is built, but must take a form agreeable to the human nature which is its sole component.

It is a wise practice for representatives of management now and then to question themselves upon their responsibilities as supervisors. One such question is: "In my position as a supervisor over the work of others, what are my obligations?" The answer must inevitably be something like this. "Upon my shoulders rests the responsibility for the direction of this company, or this department, or perhaps a small operation within the department, and my first duty is to determine the activities and functions which must be performed if the unit which I am supervising is to accomplish its objective."

The policy which I speak of here is simply a "plan of action." It is important that every supervisor should have such a policy and know it well. Once this policy is fully recognized, it is usually not hard to determine those activities and functions which must be performed to the desired end. Much like the planning by a general of a military campaign, the goal aimed at and the means of achieving it must be carefully developed—and then made crystal clear to everyone whose help is needed in attaining it; and employees are included in those who must know what the goal is and how it is to be attained. Such knowledge is necessary if we are to avoid friction and misunderstandings, wasteful duplication of work, omissions, delays, and lost motion.

Organization Varies with Conditions

This sort of "planning" is called organization work. It is needed if men and women are to work as effectively in groups as they do when alone. If the organization work is poorly done, the results are commensurate therewith. Too many organizations have grown up without comprehensive foresight, and hence are not able most efficiently to perform the functions for which they are responsible.

Different conditions demand different types of organization. Experience, changes, mergers, competition, changes in policy, and many other such incidents, call for changes in organization. We find companies today, nevertheless, in which many changes have occurred, but which are still trying to operate on an organization plan established to meet conditions of many years ago.

A common error is that of adapting positions to men,

rather than building men to positions. In an organization properly set up, every position carries with it certain clearly defined duties which must be performed. If the individual in the position is not capable of performing them, the manager or supervisor should try to discover the weakness of the individual and, through training and development, eliminate it.

Having determined the duties of a position, the next step is to assure that proper personnel is selected. I merely suggest that we give as much time and thought to men as we give to the selection of materials and equipment. If we are trying to determine just what type of machine is needed to perform a certain task, specialists are called in and expert advice is sought, surveys are made and conferences are held. I suggest that we exercise as much care in selecting the man to operate the machine as we take in the selection of the machine itself.

The next great responsibility of management, following the selection of new employees, is that of developing present employees for higher positions. When an office boy is hired, it is our job to help him become not only a good office boy, but to encourage and train him for the next higher position.

Helping Subordinates to Progress

Another obligation of management is to direct the people under supervision. It is too often assumed that this function is being properly performed—when not much critical study or measurement is being given to the effectiveness of such direction. Each supervisor should, now and then, ask himself this question: "Are

The Author

Mr. Horning started his transportation career back in 1916 at the age of 17, as an employee at Indianapolis of the American Express Company (predecessor of the Railway Express Agency)—and filled most of the jobs in the express business at that point, from pushing a platform truck and acting as relief express messenger—up to terminal agent, superintendent of vehicles and route agent.

While working, Mr. Horning was also studying law, at Benjamin Harrison Law School, and was admitted to the bar in 1927.

Mr. Horning was at one time an officer of and counsel for the Railroad Employees & Taxpayers' Association of Indiana. From 1933 to 1936 he served as counsel for the Indiana Railroad Association and in July, 1936, was appointed director of competitive transportation research, Eastern region, A. A. R., and in this capacity fully informed himself on legislative and administrative action affecting transportation in the states east of the Mississippi river. He appeared frequently as counsel and as an expert witness in these jurisdictions in matters in which the railroads were interested.

In January, 1941, Mr. Horning became assistant to vice-president, personnel, of the New York Central, being promoted in December of the same year to manager, personnel, and was advanced to the vice-presidency in charge of this department in June of the current year.

Asked to characterize the New York Central's vice-president in charge of personnel in a few words, one of his friends recently said: "He is that very rare combination—a swift, effective executive; and, at the same time, a student immersed in analysis of underlying currents and trends affecting transportation at the very time that he is dealing promptly with practical day-by-day affairs."

the people under my direction making progress because of leadership or in spite of it?"

There is as much technique involved in the supervision and direction of men and women as is to be found in the running of a machine, the procedures of a laboratory, or the principles of selling. Certain principles and laws of human behavior are well known as the result of long observation and experience. It is known that, if certain things are done in a certain way and at a certain time, certain results will ensue. It frequently happens that the best salesman does not make a good sales manager because he knows little about the art of directing other people.

Personnel Policies for Better Railroading

Informed and intelligent direction inevitably brings improvement in the habits, attitudes, and skills of employees. These in turn bring better human relations, better work, greater productivity. I am firmly convinced that better employees make a better railroad and that better employees may be developed by the pursuit of sound personnel practices.

If I were called upon to name the one most important personnel practice from which both management and employee may benefit most, I should say that, just now, it is the training of employees and supervisors. The supervisor and foreman should have their jobs lifted out of the realm of inspection and into the realm of real supervision—helpful influence upon the careers of those under them. It is the supervisor's duty to see that every individual in his department knows exactly what he is expected to do when he is expected to do it. With such an understanding, the employee will know at all times where he fits into the whole picture and will appreciate the part he plays in it. The employee is entitled to specific information on just what constitutes satisfactory performance, to the end that when he goes home at the end of a day's work he may know whether he may rightfully be pleased with himself. There is no greater morale builder than the satisfaction which comes from knowledge that one has done all or more than was expected of him, and has done it well.

If his "boss" does not know what constitutes good performance, then surely the employee cannot be expected to know it. Practices which the employer may inaugurate for the purpose of informing the employee where he stands in the eyes of management, how well he is doing his job, what his weaknesses are, and what his opportunities for advancement are, are helpful in this direction.

What Constitutes a Well-Done Job?

It is the function of personnel administrators to encourage, on the part of supervisors, a consideration of what constitute sound management practice; and, on the part of the employees, an appreciation of the considerations extended by management, a desire to do better work, a spirit of co-operation with other employees and the company, and a loyalty to the company, engendered by intelligent respect for its practices and policies.

The transportation industry (I speak largely of the railroads) has pioneered in the establishment and furtherance of certain personnel practices. Among these are pensions, hospitalization, employee suggestion systems, management-labor committees, transportation to and from work, recreational activities, decent and clean rest rooms, toilet, eating and sleeping facilities, veterans'

associations, choral clubs, employee bands, the apprentice system of training, and athletic associations. The railroad pioneered, too, in the employment of women at rates of pay equal to those of men. The railroad industry was the first industry in America, I think, to recognize the principle of seniority, and I believe that to my own railroad belongs the distinction of making the first agreement with a labor organization in which the much discussed and sometimes abused principle of seniority was recognized. I refer to an agreement made by the New York Central & Hudson River in 1875 with the Brotherhood of Locomotive Engineers, in which was recognized the right of competent employees to certain preferential runs by reason of their length of service with the company.

I am, however, frank to say, that we in the railroad industry have in some cases become "weary of well doing" in that in many instances, laudable personnel practices have not been advanced to the desirable extent, and, in some cases, we have failed to modernize practices to keep pace with the times. This is to be expected in an industry as old as ours, where some supervisors may find it hard to realize why the young men and women entering our service today should not work under the same conditions they worked under when they started in the business several decades ago. They do not appreciate that the requirements of the job today are different from those of an earlier time, and that the boy or girl taking the job is a different type from the one who entered the service at the turn of the century or before.

First Duty Is to Hire Qualified People

There is need for modernizing some personnel practices in the transportation industry, particularly on the railroads. Our friends in air transportation have made notable progress in such personnel work as the selection and training of employees, but in the railroad industry there are thousands of supervisors who hire new employees, in many instances at least, without much regard to the need for discriminating and intelligent care. Just as one cannot make a silk purse out of a sow's ear, neither can an efficient, progressive employee be developed from a person who lacks the inherent qualifications.

We have demonstrated on our railroad in the Metropolitan area in New York what may be accomplished by modern employment procedure. We established a centralized employment department where applicants are interviewed by properly trained interviewers, with the purpose of getting into our service qualified young men and women. We try to get the round pegs in the round holes.

Applicants for employment are considerably interviewed and are rated for appearance, education, experience, enthusiasm, and other relevant factors. Our experience has been that centralized employment procedure saves a lot of time of supervisors, destroys tendencies toward nepotism, race and religious prejudices, and counteracts other objectionable influences that have a way of influencing the selection of employees where the hiring is everybody's job.

I expressed the opinion above that perhaps the greatest need in industry today is that of training employees for present and future positions. We have made considerable progress in the training program on our railroad and several thousands of our employees, thanks to the co-operation we have received from the "Training-Within-Industry" division of the War Manpower Commission, have received "job instructor training" and are

now receiving "job methods training." We have also established special classes through an arrangement with a large eastern university for employees in our accounting department to study advanced accounting methods, and other special classes for employees of our traffic department. We are also operating schools for ticket clerks and for telegraphers. Classes have been conducted in office management for chief clerks and other supervisors. There are classes in which public speaking is taught, and several thousand of our supervisors and foremen are learning to be better supervisors by foremanship training. Some of this latter training has been offered under the auspices of "Training-Within-Industry"; some by special arrangement with state universities; and in one case by contract with the National Foremen's Institute.

A considerable number of our employees have enrolled in correspondence courses on railroading with the Railway Educational Bureau of Omaha, Nebr., and this we have encouraged to the fullest extent.

Apprentice Training Continues

Our apprentice training program continues as it has for years, except that the practical training of apprentices on the job is now being supplemented, here and there, by classroom training. Some of our employees are also engaged in special courses of study on the proper methods of firing locomotives and the conservation of fuel.

We are convinced that training of this kind makes better employees, and, as stated before, better employees make a better railroad.

Even as training during these war times has turned thousands of people into efficient workmen, so can we accomplish the same result in time of peace. We are now also establishing special classes in public relations training for certain classes of employees who deal with the public—such as ticket clerks, gatemen, parcel room employees, train conductors, and other such occupations. Training makes more efficient employees; more efficient employees are more likely to be promoted; and anything done in industry to speed up the rate of promotion will promote employee morale.

Turnover Wastes Money Spent in Training

Improved morale will reduce the labor turnover, and that is helpful to any employer in many ways. Every time we put a new employee to work we make an investment in him. That investment is destroyed when the employee leaves the service. On the New York Central System, while we do not know exactly what it costs us to put a new employee to work, we do know that the average investment per employee at work on our railroad today is \$18,410. In other words, the owners of our property have invested an average of \$18,410 for each job on the railroad.

Perhaps it would be well to define the word "morale," as here used. The dictionary says that morale is "that mental state which renders a man capable of exhibiting courage in the face of great danger," but the meaning the word conveys to me is "that feeling or attitude of the employee toward his work and his employer, including his enthusiasm or lack of enthusiasm for his work; his pride or lack of pride in the job he has, and in the company he works for." There are a million and one things which may occur to raise or lower employee morale. It is hard quality to gage. It is reflected, for example, by a certain note which creeps into the tone of

voice of an employee when he says, "I am a New York Central man."

Among the countless factors which may influence employee morale for better or worse are the following:

1. Compensation—the wage structure
2. Job security
3. Personnel counseling
4. Employee savings and thrift plans—encouragement of credit unions
5. Pensions and group insurance and sick benefits
6. Training of workers
7. Training of supervisors, foremen and executives
8. Promotion of safety
9. Number of working hours and starting times
10. Transportation to and from work
11. Housing facilities
12. Privileges on the job, such as smoking and rest periods
13. Company medical and health programs
14. Induction training
15. Physical working conditions—surroundings on the job
16. Lunch periods
17. Frequency and methods of paying wages
18. Conditions of lunch rooms, rest rooms, recreational rooms, toilets and lavatories
19. Job evaluation
20. Practice of informing employees about their job status (both successes and failures)
21. Employee merit or performance rating
22. Leave-of-absence practices
23. Vacation and holiday practices
24. General outside physical appearance of the plant in which the employees work
25. Completeness and accuracy of employee personnel records
26. Opportunity to learn new skills
27. Opportunity for advancement
28. Company's reputation with the public
29. Employees' knowledge of company history, its finances, etc.
30. Type and condition of tools, equipment, furniture, etc.
31. Methods of handling grievances
32. Employees' suggestion system
33. Employment methods, including selection, interviewing and placement
34. Laws affecting relationship between employer and employee
35. Discipline policies
36. Policy with respect to wearing uniforms
37. Importance of company's product or service in war and peace
38. Labor turnover
39. Union practices and leadership
40. Employment of mixed nationalities and races
41. Employees' burden of state and federal taxes
42. Special allowances for overtime work, termination allowances, etc.
43. Bulletin boards and the company magazine or newspaper
44. Supervisors' temperament and personality
45. Employees' temperament—ability to get along with others
46. Company's attitude toward employees (its interpretation of policies, whether liberal or conservative)
47. Social and recreational activities.

Ten Most Important Factors in Employee Morale

All those who will scan this enumeration of items affecting employee morale will think of many other similar factors. I wonder whether we can select the ten most important items from such a list. My own choice would include the following:

1. Job security—employment stabilization
2. Compensation
3. Opportunity for advancement
4. Methods of handling grievances
5. Number of working hours and starting times
6. Vacations
7. Training of employees

8. Training of supervisors, to assure competence which employees will be led to respect
9. Employee eating, lodging, rest and toilet facilities
10. Social and recreational activities

Not everyone will agree with my selections, and I might alter them somewhat myself after further consideration—but I believe we can all agree that all these factors are important.

It seems likely that employer-employee relationship in our country has entered a new era, which is now in the formative stage. Those of us who are engaged in the work of personnel administration should strive to make this new period one of a wider and deeper degree of mutual respect and understanding. We should seek to make this period one of trust in the motives which inspire employers and employees, and one of a wider realization of common interest in the well-being of the industry in which we are engaged. This means that employees must be given the opportunity to understand what their stake in successful management of their industry is.

On both sides of the table where we do our collective bargaining, the parties will do well to maintain a sense of humor, and to have the intelligence to recognize reality, as well as the courage to face it. A sense

of fair play must prevail, and both parties need to follow reason rather than yield to their emotions. As the unions demand and receive further rights and privileges, they must accept greater responsibility.

Collective bargaining and personnel administration require, on the part of those engaged in it, the courage to stand up for one's convictions plus the ability to appreciate the other fellow's. We need the capacity to adjust our procedures to changing conditions, in a world which is moving very rapidly.

Burlington Scrap Drive

IN response to the second National Railroad Conference sponsored by the War Production Board to increase the production of ferrous scrap, the Burlington has initiated an intensive drive to bring out dormant scrap that was missed in last year's drive, and the campaign is now being waged on every division of the System's 11,000 miles of line in the thirteen states through which it operates, in co-operation with the "Victory Scrap Bank."

The drive was launched on October 23, when President Ralph Budd and Executive Vice-President Edward Flynn visited the railroad's Havelock, Neb., shops and storehouse and designated more than 300 tons of material to be scrapped. Included in the material were compressors, boilers, line shaft hangers, hand pumps and other items which were being held "for possible future use" but for which no definite or reasonably early need could be proved.

Scrap committees have been organized on every division of the Burlington Lines. These consist of the superintendent, storekeeper, roadmasters, master mechanic, master carpenter, signal maintainers and special agents. In addition, retired employees have volunteered their services to assist with the drive on nearly every division.

The Burlington drive has three objectives: (1) to fine-comb tracks, yards and shops for scrap; (2) to encourage farmers and industries located along the railroad to turn in their scrap; and, (3) to induce Burlington employees and their friends to turn in scrap from their homes. The railroad will not purchase or deal in outside scrap but will accept it, where practicable, for inclusion with railroad scrap going to the steel mills.

C. E. Swanson, traveling storekeeper, has been named general scrap chairman for the Lines East of the Missouri river and Adolph G. Schmidt of the safety department has been named chairman for the Lines West of the river. Both will devote their full time, if necessary, to the drive.

Scrap committee men have been told that, because of the intensive scrap drive in 1942 and the necessity of making every piece of equipment last as long as possible, it will be more difficult to find scrap now than it was last year. However, they are being urged to devote correspondingly greater effort to the task because the country's need for scrap is just as great or greater than a year ago.

Committee men from the Lines East received final instructions at a meeting in Galesburg, Ill., on October 29, which was attended by more than 50 superintendents, storekeepers, roadmasters, master mechanics, signal supervisors, master carpenters and special agents. On the Lines West, General Chairman Schmidt is visiting each division to organize and stimulate the scrap activities.

Dr. Goebbels' Mistake

"Shortly after Pearl Harbor, Dr. Paul Goebbels, Germany's Minister of Propaganda, offered a prophecy concerning the defense effort of the United States. The American railroads, he pointed out, were entering the war with 10,000 fewer locomotives than they had at the beginning of World War I, and with 500,000 fewer freight cars. This shortage of rolling stock, he observed, would be embarrassing under the most favorable conditions; at a time when the country faced such new problems as the paralysis of coastwise shipping and the shortage of tires and gasoline, it would prove, he predicted, an insuperable handicap. Transportation—and particularly railroad transportation—declared Dr. Goebbels confidently, would prove the Achilles' heel of the American production effort. . . .

"Germany's Propaganda Minister based his prediction of an American transportation breakdown on the fact that we had half a million fewer freight cars going into World War II than we had in World War I. What Herr Goebbels, along with many others, failed to understand was how the improvement in railway plant and equipment over the last twenty years, plus the more intensive utilization of that equipment, had transformed the 1,800,000 cars of 1942 into the equivalent of more than double that number. This discussion may be concluded with a brief presentation of the picture in terms of freight cars—a presentation which shows that while Herr Goebbels' figures were correct, his conclusions were fantastically wrong.

"In round figures, the number of freight cars available in 1918 was 2,400,000—in 1942 1,800,000

"But the 1942 cars had an average capacity 25 per cent greater than those of 1918. This raises their aggregate capacity, in terms of 1918 cars, to 2,250,000

"Moreover, the modern freight car is loaded 10 per cent nearer to capacity than that of World War I. This raises the figure again, this time to 2,475,000

"But, what is even more important, the average freight car today is moved 50 per cent faster, with less terminal and loading and unloading delays. In other words, it makes 3 round trips for every 2 made by its 1918 predecessor. Which is simply another way of saying that, instead of boasting but 1,800,000 freight cars (1918 type and efficiency) the railroads, at the beginning of the second World War actually had, for all practical purposes 3,712,000"

—Economic Bulletin of the National City Bank, N. Y.

B.&B. Men Hold War Conference

Abstracts of five addresses and papers, and four additional committee reports, presented before the war-time conference of the American Railway Bridge and Building Association on October 20-21

PART II

CONTINUING the running report of the two-day war-time conference of the American Railway Bridge and Building Association in Chicago on October 20-21, that appeared in the *Railway Age* of October 30, together with abstracts of several addresses and three committee reports, abstracts of the four remaining committee reports and of five other addresses and papers included in the conference program, appear on this and following pages. The addresses and papers covered herewith, all of which were included in a five-part symposium dealing with the material situation, were presented by A. C. Mann, vice-president, purchases and stores, Illinois Central; O. F. Dalstrom, assistant chief, Way and Structure Section, Transportation Equipment Division, War Production Board; A. M. Knowles, engineer of structures, Erie; E. M. Grime, engineer water service, Northern Pacific; and A. L. Sparks, architect, Missouri-Kansas-Texas Lines.

The committee reports covered embrace the following subjects: Maximum Utilization of Work Equipment; How to Secure and Hold Men; Salvaging Bridge, Building and Water Service Materials; and Relief in Materials Through Substitution. Abstracts of four other addresses and papers before the conference, presented in a symposium on Labor, by Edwin M. Fitch, assistant director, Division of Transport Personnel, Office of Defense Transportation; W. G. Powrie, engineer maintenance of way, Chicago, Milwaukee, St. Paul & Pacific; L. E. Peyser, principal assistant architect, Southern Pacific System; and M. Young, supervisor, Pennsylvania, Warsaw, Ind., will appear in the issue for next week.

A. C. Mann's* Discussion of Materials Situation

We in the railroad industry who have to do with materials feel that the Controlled Materials Plan is the best plan for the control and distribution of materials that has been proposed thus far. It is working, although we hear rumors that there may be changes in it. We like it because it gives us rather positive assurance that those materials which are allocated to us in a certain quarter will be received during that quarter, or within the early part of the following quarter.

Some of the regulations embodied in the original plan have been eased to the extent that we are now being asked, and, in fact, are being urged, to put orders on the books for steel and other critical materials as far ahead as the third quarter of 1944. In looking at your needs as far as a year in advance, you must have considerable

leeway in your plans, to the extent that you can make changes as conditions arise. The War Production Board recognizes that, and says that it will permit changes in actual orders placed, provided the total tonnage or the dollars and cents quota which has been allotted is not exceeded.

We haven't quite succeeded in selling the War Production Board on the fact that a railroad inventory can't be considered the same as an industrial inventory, although we are coming closer to that all the time. The original plan was to pin us down to a 60-day inventory, and the rule to that effect hasn't been withdrawn. However, recognizing our position in this matter, the Board is not showing undue concern if our inventory covers 90 days or a little more than that. With regard to bridge timbers, crossties and items of that character, which must be seasoned before treatment, we have succeeded in securing at least a verbal understanding to the effect that a six to eight months' inventory will not be criticized.

The War Production Board is staffed with men who understand, or who are at least learning to understand, the railroads' story. The men who pass on our quarterly statements have an understanding of what those statements mean, and the importance of materials to the railroads, and while we haven't yet gotten the railroad industry, as an industry, out of what is called civilian supply and over into national defense, where it actually belongs, we are securing the kind of help from Washington that we have worked for.

Lumber, in which you in the bridge and building department are particularly interested, may cause us a little trouble for some time yet, although I understand that the timber situation on the West coast has eased up to some extent. In view of this, and with a proper understanding of what their lumber inventory is, I feel that the War Production Board office in Portland will help the railroads get the timber that they need.

There are certain grades of steel that are getting a little bit easier. Whether they will stay that way, we do not know. Six months ago, we couldn't get alloy steels. That situation has eased up considerably, and we are now being asked if we can use alloy steel in some places instead of carbon steel, because the latter is vitally needed in the country's shipbuilding program.

These changes come about and we don't know what they are going to be until they happen. A thing that is critical today may be easy tomorrow, and just the opposite. So it behooves all departments on the railroads to keep in close touch with those on their roads whose responsibility it is to keep abreast of the changing material situation.

O. F. Dalstrom* Gives W.P.B. Views on Materials

Railway engineers are faced with restrictions in two materials on which they depend most—structural steel and timber. A third material, cement, is unrestricted and can be had in quantity. Fortunately, reinforcing bars are also obtainable with little difficulty, permitting the substitution of reinforced concrete, where practicable, in projects where steel or timber would ordinarily be used. The restrictions on timber do not apply to piles, so engineers are free to design and build foundations almost to their liking, if they can do it without steel piles.

The scarcity of thin lumber is acute. The shortage of carbon steel is also acute. This includes plates and sheets. There is a good supply of reinforcing bars from re-rolled steel, and there is a disposition to allot all billet steel necessary for tension bars, thereby permitting the construction of concrete slabs for bridges where steel spans would ordinarily be provided.

Confronted with these conditions, railroad engineers, supervisors and builders have a wide field for the exercise of originality and ingenuity. Old standards and old ways of doing work need to be re-examined. Tradition goes into the discard. The aim must be to save critical material while keeping structures safe. Cost is

* Vice-President, Purchases and Stores, Illinois Central.

a secondary consideration. Build for the immediate future only, if that will conserve critical material.

First of all, every bridge must be made to last as long as it can be made to function safely by making repairs, replacing defective parts and reinforcing weak members. By replacing weak parts, a timber bridge can usually be kept in service a year or two beyond the normal service life as determined by criteria in common use. Old steel spans that were headed for the scrap pile are being repaired, rejuvenated and put back into service, either on light-traffic lines under small locomotives, or cut down in length and reinforced in details for heavy service. With the highly developed art of arc-welding and the use of the cutting torch, all but the most dilapidated steel spans can be put back into service somewhere, and when that is no longer possible, they can be cut up for material to be used on other spans. Old steel spans in service can be given the same treatment, and this is common practice.

But bridges were not built to last indefinitely, even with the most thorough maintenance. Some bridges must be rebuilt even in war time. But before deciding on the type for the new bridge, examine the conditions that determined the type of bridge that is to come out. Conditions may have changed since that bridge was built. A concrete pipe or a short span, for example, may replace a timber trestle or a long span. A short re-alinement of track may reduce or eliminate bridges that were necessary on the original alignment, which may have been selected to avoid heavy earthwork.

In submitting applications on Form WPB-617, keep in mind that the analyst of the War Production Board must know (1) exactly what is wanted, set out in enough detail so that he can determine how you arrived at your total quantities; and (2) why the improvement is needed now. Put yourself in the position of the analyst whose recommendation must be fully justified by the evidence accompanying the project when he passes it on for approval and issuance of the final order.

E. M. Grime's* Paper on Water Service Materials

Every bridge, building and water service officer must realize that his minimum requirements at this time are those necessary to keep the railroads operating at one hundred per cent efficiency. With the demand for the highest quality of locomotive boiler water currently two hundred, and sometimes three hundred, per cent greater than former normal requirements, conservation does not necessarily mean getting along with less than formerly, but rather that the greater quantities of materials required be used more effectively than ever before.

Increased flow at water columns is one of the urgent requirements at many points, caused by greater business and the necessity of moving it faster. In some cases, the laying of a larger supply main is the remedy, while in others, the rebuilding of a storage tank at a higher elevation will give the desired additional flow head. If the larger size of pipe is not available, sometimes the laying of an additional pipe parallel with the existing main, in some size that is available, will give the desired increase in flowage volume.

The scarcity of pipe and fittings has been overcome largely on some roads by preparing a list of all piping in the various sizes remaining in the ground at abandoned water stations and in abandoned lines elsewhere. Some railroads have found 10 to 20 miles of cast iron pipe, practically as good as new when cleaned, available as a substitute for new critical material of this kind. The cleaning of certain existing pipe lines, where a higher pumping pressure is required than should normally exist, is another important item in the conservation of water service materials.

In many cases, modernization of existing pumping equipment now becomes of paramount importance, even though critical materials must be made use of, because it is the only practical way to obtain the necessary increased water production. In some cases, it will be found that by replacing an obsolete type of triplex or duplex pump with a centrifugal pump of larger capacity, less waste of critical steel may be required than for the necessary repair parts for the old equipment.

Electric motors are now so critical that an inventory of all

surplus equipment of this kind on the railroads should be made. Sizes may often be found that can be used to advantage to replace gasoline or fuel-oil engines which have reached the stage where repair parts, even if available, are not justified economically.

Creosoted timber for the substructures of water tanks provide a good substitute for the more critical steel, and such timber sub-structures supporting a wood tub are economical structures for complete steel storage tanks.

It is now of greater importance than ever before to make certain that there shall be no delay to traffic in any way chargeable to the failure of water service equipment, and supervisory officers, although already making every effort to avoid waste or the unnecessary use of critical material, have a greater responsibility than ever before to make certain that all water service equipment is being scrutinized carefully to anticipate failures of essential parts, and to arrange for repairs well in advance, so that there will be no stoppage of water production.

Maximum Utilization of Work Equipment

In the light of the present unprecedented volume of traffic on the railways, manpower shortages and difficulties in securing materials, the committee reporting on this subject, of which D. T. Rintoul, general bridge inspector, Southern Pacific, was chairman, stressed the importance of power tools and work equipment to the bridge and building forces today in enabling them to keep abreast of essential maintenance work, and offered many suggestions to the end that such equipment as is available, or as becomes available, will be used most effectively and to the fullest extent. The outstanding factors contributing to the more intensive utilization of equipment, it pointed out, are proper programming of work operations and careful operation, maintenance and repair of the equipment itself. Throughout the body of its report, the committee discussed these factors with respect to each of the three major classes of equipment—heavy on-track equipment, heavy off-track equipment, and small portable tools. Some of the highlights of its comments were as follows:

"Work must be planned in an orderly way if present equipment is to be used to the utmost, and movement of equipment from job to job must be held to the minimum. With these factors in mind, the annual bridge inspection becomes more important than ever before. On the basis of this inspection must be determined not only the work that is to be performed, but also when it should be done. Interruptions to traffic and slow orders must be avoided more than ever before, and work must be planned in such a way that they will be kept to the minimum.

"In assigning heavy equipment to gangs, consideration must be given to the greatest possible use of the various machines. If possible, compressors should be transported by trucks rather than by train. On some roads, one or more compressors are mounted on trucks assigned to the bridge and building department, a practice that other roads might well follow to obtain greater flexibility in the use of their tools.

"Each division should have its allotment of compressors, concrete mixers, generators and air-operated tools. A close check of gangs should be made frequently by the supervisor to determine what tools are idle or may be idle in the near future, so that they can be sent to gangs where their use is required.

"The proper operation and care of work equipment are essential to its maximum utilization. Capable operation carries with it minor details of every-day maintenance which, if properly attended to, will prevent failures with their resultant delays, and will increase the efficiency of machines and prolong the periods between shoppings for general repairs.

"The provisions for repairs probably comprise the most important factor in insuring the maximum efficiency of tools. This is particularly true today in view of existing limitations on securing new equipment. Machines should be shopped when the accumulated wear is such that field repairs will no longer assure continued operation."

Summing up, the committee said that the two principal factors necessary to obtain maximum use and efficiency of work equipment in bridge and building work are (1) the careful planning of the work, based upon an annual inspection, and (2) the maintenance of the equipment in a good state of repair.

* Engineer Water Service, Northern Pacific.

A. M. Knowles* on Conservation of Bridge Materials

The absorption of enormous quantities of materials of every class in the war effort, together with the cream of the manpower of the country, has forced every bridge and building man to exercise extraordinary vigilance and to develop an added sense of responsibility to see that neither materials nor labor is wasted. It is self-evident that the facilities under the care of bridge and building men represent the foundation upon which the entire railroad plant rests. Any failure in these facilities will result in delay, loss, and sometimes, disaster, and to that extent will hinder the important part the railroads are playing in the war effort.

It is of no avail to wish for materials or men which we cannot have. We must make the most of what we have and exercise all the ingenuity, resourcefulness and courage we can muster to enable us to cope with the situation and attain the essential results. The conservation and the fullest utilization of existing materials in hand is one of the first steps in attaining these essential results. While it might not be considered economical under ordinary conditions to work over and reuse second-hand materials, as a war measure it is quite the thing to do, regardless of the economy phase.

Bridge and building officers have always foreseen their needs for materials and supplies well in advance of their usage, but because of the present shortages in many items, major operations, at least, must be foreseen even earlier than heretofore. This is necessary to avoid risks of delays or of being prevented from undertaking work entirely because of failure to have on hand the necessary materials and equipment.

The effect of the shortage of experienced maintenance forces is next in importance to the shortages of materials and equipment. Realizing this, the Erie management has established an educational department under a director who devotes his entire time to carrying out a continuous program for training employees. This applies to all departments of the railroad. The job-instructor training course is designed to teach the best method of getting a man to do a job safely, correctly, quickly and conscientiously, and has been very helpful in getting across to supervisors and foremen the fundamental principles and methods of training men. The course is also designed to give one a practical, organized plan to improve job methods, to produce more and better products or services in the same time, with no harder work, and to make the best use of machines, materials and the abilities of that manpower now available.

A. L. Sparks† Advises on Building Materials

We are all anxious to learn of new methods and materials with which we can add to and maintain our over-taxed facilities without resorting to the use of critical materials, or to the use of labor needed for the making of ships and planes and guns. There are many things we can do in this regard.

We should familiarize ourselves thoroughly with the War Production Board's Conservation Order L41, with all of its revisions and interpretations, and we should also familiarize ourselves with the bulletin on Critical Construction Materials. We should give thorough consideration to our preliminary studies, plans and estimates, being sure there will be no change in our designs and lists of materials that will necessitate re-submitting them to the WPB after authority has been once given.

Certain types of structures may be constructed almost entirely with non-critical materials. For example, small shop buildings can be constructed with plain concrete or rubble stone foundations, concrete floors on earth fill, concrete roof slabs on old rail beams, roofs covered with pitch and gravel, walls and partitions of brick or tile, plastered, and the principal windows can be built of hollow glass blocks.

With non-critical materials, much maintenance work can be done now to keep our structures usable and to avert postponement until our work programs are overcrowded and funds are not available. We can help by catching up on repairs to concrete

pavements, retaining walls, masonry foundations and sub-structures. We can clean and rake the defective mortar joints in terra cotta, stone, brick and masonry buildings; tuck point them and install new wall caps and copings; and caulk around the windows and doors.

We can repair and waterproof the weathering surfaces of expensive concrete structures. We can repair, reline or rebuild defective chimneys. We can substitute plain concrete troughs or walks around buildings for which we cannot secure the material to renew deteriorated metal gutters. We can renew worn out and leaky roofs with new long-life roofs, using non-critical materials. We can renew broken glass and repaint buildings and other structures. We can dismantle obsolete and abandoned structures and reduce the size of stations and other buildings where changed conditions have made such large buildings no longer necessary; and the carefully salvaged material can be used for the construction of new facilities or the repair of old ones.

Furthermore, since thermal insulating materials are not critical, we can help materially by insulating old buildings to reduce heat loss, and thereby conserve our natural fuel supply. And in addition to all of this, every bit of dismantled wood should be examined carefully and the usable portions salvaged, even to the shortest pieces, which can be used for blocking.

Salvaging Bridge, Building and Water Service Materials

Reporting on Salvaging Bridge, Building and Water Service Materials, a committee, of which H. W. Wuerth, division engineer, Chicago, Milwaukee, St. Paul & Pacific, was chairman, literally combed the field to bring to the attention of members of the association possibilities for the salvage and reuse of materials, pointing out at the outset that under present conditions, it behoves bridge and building men to make more extensive use of second-hand materials than ever before.

Dividing its report into three main parts, the committee gave consideration first to the salvage and reuse of materials in bridge maintenance, followed by a discussion of the reclaiming and reuse of materials in the maintenance of buildings and water service facilities. Under bridges, it discussed steel girders and trusses, piling, caps, stringers, ties, miscellaneous timbers and hardware, pointing out that the careful and early planning of the season's bridge renewal and repair program can be very helpful in obtaining and utilizing good second-hand materials for the season's work.

In its consideration of buildings, the committee pointed out that much is already being accomplished by various roads in recovering building materials, and substantiated this by citing several examples of passenger station and freight house remodeling, which eliminated unnecessarily large and unsightly structures, did away with waste space which had become a fire hazard, and, withal, resulted in the recovery of large quantities of usable materials for repair and modernization work. In recovering and reusing building materials, the committee said that there is great opportunity not only to devise more economical salvaging methods, but to exercise ingenuity in finding uses for everything that can be salvaged.

Discussing water service facilities, the committee gave primary attention to pipe lines, valves, plumbing fixtures and other fittings, as well as to water tanks, water columns and electrical equipment. Pointing out that most of the materials used in water service are on the critical list, it urged that every effort be made to salvage and reuse such materials, not only in the interest of economy, but as a patriotic duty during the present emergency.

Relief in Materials Through Substitution

The committee reporting on this subject, of which W. A. Sweet, general foreman bridges and buildings, Atchison, Topeka & Santa Fe, was chairman, found its assignment particularly difficult because of the confusion now prevailing throughout the entire category of materials. At the outset, it said that conditions are changing so rapidly, almost from day to day, that a material that is available in quantity today may become "critical" and unavailable overnight. In view of this situation, it recommended that first

* Engineer of Structures, Erie.

† Architect, Missouri-Kansas-Texas Lines.

consideration be given to the use of second-hand material, and pointed out that a careful survey of abandoned, or partially occupied, buildings will bring to light an amazing amount of salvagable materials that are not otherwise available.

Beyond the use of second-hand material, it recommended the use of non-critical materials for critical materials, wherever possible, and in this regard, considering buildings first, it made numerous suggestions, including brick, structural tile and other similar products, instead of wood, for exterior and interior walls; corrugated asbestos sheets for building sidings and roofing, instead of wood or metal; various types of fibre board for wood sheathing and for wall and ceiling finishes, instead of wood or lath and plaster; glass blocks and wooden sash for steel sash; wood gutters and down spouting for designs formerly of copper or other sheet metal; asphalt-impregnated cotton fabrics for metal flashing, etc.

With regard to bridge work, the committee's recommendation had to do largely with the maximum use of second-hand materials and with methods of strengthening existing structures. As regards water service, it pointed out that the solution of the problem is to make only such installations and renewals as are imperative, and to use materials lower down on the critical list than normally.

Looking ahead to the prospect that all materials will become more difficult to obtain, the committee said that it behoves everyone to plan carefully, eliminating the use of critical materials to the greatest possible extent, while maintaining close supervision. However, it pointed out that in many regions labor is critical, and that it may be more helpful to the war effort to use a more critical material than the least critical material available, if by so doing a substantial saving in man-hours can be effected.

How to Secure and Hold Men

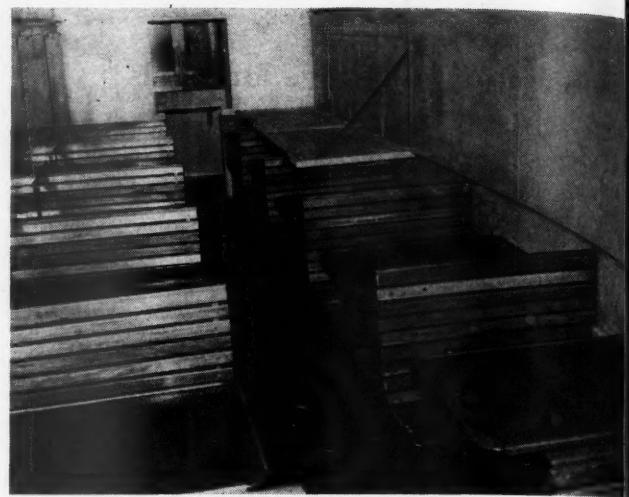
Citing recent reports of the United States Railroad Retirement Board to indicate the seriousness of the labor shortage on the railways, a shortage which included approximately 4,200 bridge and building employees on September 1, 1943, the committee reporting on How To Secure and Hold Men, of which M. D. Carothers, chief engineer, Alton, was chairman, first reviewed the reasons which have brought about the shortages in bridge and building employees and the difficulties faced in efforts to overcome them, and then discussed a wide range of practicable means of attracting new men into bridge and building work and of holding those already employed.

Directing its attention first to means of attracting the needed men to fill out the bridge and building ranks, the committee recommended consideration of the following measures, which it discussed in considerable detail:

Advertise in local newspapers; see that a concerted effort is made by foremen and other employees to recruit men, taking some company time to this end, if necessary; enlist the aid of station agents and other departments; employ posters or placards in stations and other public railway buildings; watch the completion of local construction jobs for men who may become available; contact carpenters and building artisans engaged in local building repairs of no special consequence; contact local employment agencies aggressively; employ salaried recruiting agents; lower the age limits to permit the employment of boys below draft age; raise the age limit for employment within the limits of safety; offer week-end work to qualified men and boys, otherwise employed the remainder of the week; enlist the aid of the United States Railroad Retirement Board; investigate the possible use of women in some positions; discourage the retirement of men still capable of productive work and recall retired employees.

Pointing out that it is just as essential to hold their present men as to seek new men, the committee discussed 11 different considerations to this end, to all of which it commended the attention of supervisory bridge and building officers. These were as follows:

Provide steady employment; provide clean, sanitary and comfortable camps; insure that adequate, nourishing food is served in camps; insure safe working conditions; make it convenient for men to spend as many nights or week-ends with their families as possible. Reclassify or up-grade men in gangs where married; hold forth the incentive of promotion with service and loyalty; encourage interest and consideration on the part of foremen in their men; seek deferment of essential employees; employ work equipment to the greatest practicable extent; and safeguard the health of employees.



"Blackout" Dining Cars



WINDOWLESS dining cars, dubbed "blackouts" by a serviceman, are the Chesapeake & Ohio's answer to the shortage of dining cars to deal with the present unprecedented volume of travel. Four standard express cars have been converted to dining cars—and, to make the conversion job as simple as possible, windows have not been included in the rebuilding.

Well-lighted and air-conditioned, the 78-ft. interiors accommodate 12 large tables and benches for seating, giving the effect of booths. In the dining end proper there are no windows and the side door openings have been sealed so as to be easily convertible after the war. One small "service" door permits the loading of supplies.

There is a steward and a crew of nine for each diner, and servings are so systematized as to allow for a turnover of about 250 in 2 to 2½ hours. Fifty-six passengers can be served at one sitting requiring 30 minutes for breakfast and 45 minutes for luncheon or dinner.

The kitchen and pantry are nearly identical to those of a regular dining car, being equipped with standard dining-car ranges, steam tables, refrigerators, ice cream wells, dish and plate racks and storage lockers. In each car there are 12 berths for the crew, similar to Pullman "uppers." These replace the familiar "cot behind a curtain" sleeping quarters in standard dining cars.

The cars have been rebuilt at Huntington (W. Va.) Shops, under W. E. Humphreys, general car foreman, and J. W. Everett, superintendent, dining car department.

Kitchen Cars for Troop Movements Being Placed in Service

400 to be built by American Car and Foundry Company—Speedy and efficient service of food possible—Pressure on baggage car facilities will be relieved

PRODUCTION has been started at the Chicago plant of the American Car and Foundry Company on 400 troop kitchen cars for the Defense Plant Corporation to be used by the Transportation Corps, Army Service Forces, for troop movements in this country in conjunction with troop sleeping cars or other passenger equipment. A sample car has been completed and accepted and a test run with it has been made on the Chicago, Burlington & Quincy from Chicago to Aurora, Ill., and return. The first completed car was exhibited at Washington, D. C., to War Department, Navy, Marine and Coast Guard officials on Tuesday, October 26.

The design of the car follows in general that of the A. A. R. standard 50 ft. 6 in. box car with details worked out by the offices of the Chief of Transportation and the Quartermaster General. The cars are arranged, so far as possible, for later conversion to box cars with 8 ft. side doors or express cars for passenger train service.

The steel framing for the underframe, sides and roof follow very closely corresponding A. A. R. standard box car details. The end framing, which is arranged for the end-door opening, is designed to meet A. A. R. requirements for passenger train equipment. The trucks are of the high-speed type. Safety appliances and clearance dimensions will permit the use of these cars wherever passenger trains are operated.

The sides, ends and roof are insulated with 1-in. Fiberglas secured in the sides and ends with spot-welded nails. The double wood floor is of tongue and groove yellow pine, the bottom course being $1\frac{3}{4}$ in. laid crosswise and the top course $1\frac{5}{8}$ in. laid longitudinally. A

ramp of non-skid steel floor plate is provided at each side door to take care of differences in elevation between platform floor levels and the car body floor. The side and end lining is tongue and groove $2\frac{5}{32}$ -in. fir covered with $\frac{1}{4}$ -in. fir plywood, and the headlining is No. 16 gauge steel.

The hinged end doors and the inside sliding side doors are of wood covered with steel sheet and both end and side doors have drop sash with hinged screens. The end door openings are 2 ft. 3 in. wide and the side-door openings are 4 ft. wide by 6 ft. high. A safety bar is provided across each end-door opening pivoted to a bracket on the main body end post. The side-door openings are protected by door guards of standard pipe with a pivoted bottom section of expanded metal. Raising the expanded-metal section provides for loading materials into the car. There are 14 windows having sliding sash arranged to raise and equipped with inside screens also arranged to raise. Each window has a roller curtain which overlaps the window opening at all edges. Similar curtains are provided at the end- and side-door drop sash. Nine pivoted ventilating sash with flush outside screens are installed in the sides of the car close to the side plate, and 11 galvanized steel exhaust ventilators are installed on the roof with screened openings outside and registers with adjustable shutters inside.

The interior equipment is of sturdy construction and arranged for convenient use. It consists of two U. S.

The First of 400 Troop Kitchen Cars Built by the American Car and Foundry Company for the Defense Plant Corporation



Dimensions and Weight of the Army Kitchen Cars

| | |
|---|----------------------------------|
| Length inside, ft.-in. | 50.6 $\frac{1}{2}$ |
| Length over buffers coupled, ft.-in. | 54.2 $\frac{1}{2}$ |
| Truck centers, ft.-in. | 40.8 $\frac{1}{2}$ |
| Width inside, ft.-in. | 9.1 $\frac{1}{2}$ |
| Height inside at center, ft.-in. | 9.3 $\frac{1}{2}$ $\frac{1}{16}$ |
| Height from rail to top of floor, ft.-in. | 3.9 $\frac{1}{2}$ |
| Light weight, lb. | 77,500 |

Army coal ranges connected in tandem. Each range is equipped with water backs, and the smoke pipes from both ranges are connected to a smokejack of a positive exhaust type. A canopy is installed over the ranges with duct connections to two roof exhaust ventilators. The ranges are located on one side of the car adjacent to the side door opening. A coal box of $\frac{1}{2}$ ton capacity is located opposite the range and has a roof hatch for loading with coal. An expanded-metal bin is installed next to the range for wood. Adjacent to the range is a deep sink of heavy galvanized steel having a center partition with wooden drain boards and a splash back. A single swing faucet is provided for hot and cold water supply. Across the car from the sinks is the cook's work table with shelves and drawers below and shelves above. All shelves are furnished with a marine type railing of $\frac{3}{8}$ -in. pipe. Across the car from the range a utensil cupboard with sliding doors is located and on the other side of the door opening is a refrigerator of counter height. It has two ice wells of approximately $7\frac{1}{2}$ cu. ft. capacity each, with a food compartment between of approximately $15\frac{1}{2}$ cu. ft. capacity. Next to the refrigerator is the meat-cutting table which is also equipped with drawers and shelves below. Shelving is likewise provided above the refrigerator and meat-cutting table. On the opposite side of the car, adjacent to the door opening, the bread locker with shelves below is located and next to this, toward the end of the car, there is a service table supported on three stout stools when in use and carried in brackets on the side of the car when out of use. In one corner of the car a shower has been built with a pre-cast reinforced concrete base and walls of Preswood. It has connections provided for hot and cold water. The hot-water temperature is thermostatically controlled by a mixing valve to prevent scalding. The front opening of the shower has a white duck curtain. Eight floor drains with solid hinged flush covers permit washing out the car with a hose.

Heating, Brakes and Lighting

The cars are heated by the Vapor Car Heating Company's system of steam heat, there being four plain pipe coils, one located in each corner of the car equipped with manual steam supply valves. The water supply is furnished from an air-pressure water system with air supplied from the emergency reservoir of the air-brake equipment. A hand-operated air pump is located under the sink for emergency use when the cars are standing without an air connection. Water supplies for the sink and for the shower are separate, there being two 200 gal. cold-water tanks and one 40 gal. hot-water tank for the sink, and one 82 gal. cold-water tank and one 30 gal. hot-water tank for the shower. Water for the shower is heated by a Vapor water heater and for the sink by a similar heater and the water backs of the ranges.

Air-brake equipment, furnished by Westinghouse, is the AB-1-B-10 type having two brake cylinders and two AB valves, each operating the brakes on one truck. Air signal equipment is also included. A hand brake is placed at one end of the car located inside the main body end post which operates brakes on one truck only.

The car is lighted by a battery lighting system using



Working Surfaces Are Large and Plenty of Shelf and Screened Cupboard Space Is Provided



Convenient Interior Arrangements Facilitate the Preparation of Meals for Soldiers—A Shower Bath for the Kitchen Crew Is on the Left at the End of the Car

fixtures of the lens type which direct light to the working surfaces. Current is supplied by National Carbon Company's replaceable "Eveready" air cell batteries which provide approximately six volts at the fixtures. The estimated life of batteries for this service is six months for the anticipated normal lighting requirements. There are twelve lighting fixtures arranged on two circuits with snap switches, and, in addition, one night light fixture at each end of the car controlled by pull switches.

The exterior painting of the cars is a dark olive green and the stencilling is done in gold paint.

In addition to these four hundred cars the American Car and Foundry Company is also to construct at its

Chicago plant forty kitchen cars, which will be used in conjunction with hospital ward cars now being converted at the St. Charles plant. These forty cars will be the same as the four hundred, except that 32-volt axle-generator equipment with storage batteries and suitable center lighting fixtures will be used for car lighting.

In use, the troop kitchen car is coupled at the center of a train to permit dispensing food from each end. Each car can furnish meals for 250 men. The cars will be stocked with food, and with kitchen utensils, by unit mess sergeants. Each unit employing the car will provide its own cook and crew. Aside from the cooking utensils, all equipment is stationary. Under the old system, baggage-car type kitchens were temporarily equipped from salt shakers to cook-stoves, and from coal-scuttles to refrigerators, by the unit to which it was

assigned. When that unit reached its destination, it removed its equipment, leaving the car bare for its next user.

At mealtimes men are issued paper cups and plates. Bread and cubes of butter are served from paper cartons. The entree is carried in stock pots by two men, with a third following to serve it as the trio proceeds through the train aisles. Coffee and dessert are served in similar fashion. After the meal is finished, a kitchen police crew gathers up every bit of debris, which is burned at the first opportunity.

These cars, which are being built at the rate of 30 per week, will release for commercial service many of the baggage cars which have been in use as make-shift kitchen cars since heavy movements of troops began. Many of these cars will be released in time for the transportation of mail and express during the holiday season.

Communications and Books . . .

What the Women Want

RICHMOND, VA.

and
To THE EDITOR:

Have read with much interest the letters from S. M. P. and Katherine Stedelin in the September 25 and October 16 issues of the *Railway Age* and agree with Katherine.

We have a big job to do. It takes SOLIDARITY to do it. What we want is not special consideration nor recognition but equal opportunity and equal pay.

MATTIE THURSTON,
Employee, General Office, C. & O.

they would suggest on citrus from Florida to New York, a distance of approximately 1,000 miles; from southwestern Texas to New York, approximately 2,000 miles, and from California to New York, approximately 3,000 miles.

They said Texas should pay twice as much as Florida, and California three times as much as Florida, as the rate should be based on the number of miles hauled. I then asked how Texas and California could compete with Florida in the New York market if they paid freight rates two and three times as high. They had no answer to that.

I told them at the time that I made a check of every civilized country on the face of the earth shipping food to New York, where in the Metropolitan district there were about 10 million people who didn't grow any food, and that over 4,000 carloads of food and fuel arrive in the Metropolitan district every 24 hours.

It seems to me that the large delegation of representatives in Congress from Texas and California and from other states should be helping you and others in fighting the proposed freight rate legislation.

EXECUTIVE.

S.P. Calls Them Angels

OGDEN, UTAH

To THE EDITOR:

S. M. P.'s suggestion in your September 25 issue that the ladies assisting in the war effort, through securing employment with the railroads, be given further recognition through the assignment to them of some title similar to that given the WAVES, SPARS and WACs, is a worthy suggestion and one to which the railroads should give some consideration.

The Southern Pacific in recent advertising referred to them as Angels of the Rails. The S. P. Lines, I understand, have thousands of women employees and their patriotism in volunteering for service at this time has been in a great measure responsible for the wonderful record of accomplishment chalked up for the railroads since Pearl Harbor. Some title should be applied to these saviors of the rails and probably ANGEL is as applicable as any.

H. F. O.

Wasting Manpower

NEW YORK

To THE EDITOR:

I recently received a letter from the chief engineer of an important railroad vitally necessary to our war production. It was motivated by observations made by me in the *Railway Age* of July 17, 1943, page 104, about the waste of men and materials, trained engineers and constructors from the United States employed and used on the construction of the useless Inter-American Highway through Central America.

The letter reads, in part, as follows:

"I think you are performing a real service in calling attention to the fact that this highway (The Inter-American Highway) has no justification either economically or commercially, and certainly has nothing to do with winning the war. As a matter of fact the diversion of men and equipment to an unnecessary project such as this can in no way be justified, and this you well emphasize."

"Just at the present time we are faced with filing with the Selective Service authorities, what they call a Replacement Schedule. Under this schedule we are supposed to list the men we will release to the armed service in the next six months—these men of course being between the ages of eighteen and thirty-eight. The only advantage I see that we get out of this arrangement is that we have some small choice as to the time within the six months' period we release these men. As you know, under present conditions it is practically impossible to replace these men with other men, and many of them, particularly in the maintenance of way department cannot be replaced with women. It is true that some services on the railroad, such as the stores department, clerical forces, and a considerable number of positions in the mechanical

What Mileage Rates Would Do to Distant Producers

NEW YORK

To THE EDITOR:

There is so much being written about politicians and uniform freight rates for the 48 states, that I am reminded of one instance that occurred some eight or 10 years ago, when I met with a committee representing the citrus growers in Florida to discuss rates on citrus fruits from Florida to New York. I was requested to meet them because our railroad didn't handle any of the Florida fruit business.

The committee asked for a reduction in rates on account of being a short distance from New York as compared with Texas and California. After some discussion I asked them what rate

departments can be filled with women, but as far as the maintenance of way department goes, the actual work necessary to properly maintain track cannot be done with women, if they were available. Our own experience through this territory is that other industries are paying much higher wages than we can offer for such women as want to work, so that the whole thing adds up to this, that we are going to have to give up the cream of our track labor and have no way of replacing them. This word 'Replacement' is typical of this administration's method of always finding a term that does not tell the truth. As a matter of fact, these schedules we will prepare are not replacement schedules at all; they are simply give away schedules.

"It is hard to understand why such projects as the Inter-American Highway, the retention of thousands of unnecessary employees

in federal service and undoubtedly many other boondoggling projects all over the world are permitted to draw on our manpower and then so weaken essential activities here at home that we really face the prospect of some major disaster. As you know, the railroad industry is performing a marvelous service at this time, but it can only continue to do so if our manpower is left undisturbed. I look forward to the next year or two with a great deal of anxiety, as I see no solution for the manpower problem, unless Washington can be persuaded to look the facts straight in the face. Past experiences would indicate that they either will not or do not want to do this."

There is nothing new in this to railroad men but it should be more generally recognized.

FRED LAVIS.

China's Railways—Present and in the Post-War Future

A Book Review by Julean Arnold*

Chang Kia-Ngau's comprehensive, practical, timely and forward-looking treatise entitled "China's Struggle for Railroad Development" constitutes an exceedingly useful preface to China's modernization prospects and needs. He aptly quotes Dr. Sun Yat-sen in the statement "Transportation is the key to industries and the railroad is the key to transportation." This is peculiarly applicable to a country like China.

In his chapter on the profitability of Chinese railroad investments, he cites as contributory factors (1) railroad mileage is very low compared with the territory (and populace) it serves; (2) cheap and plentiful supplies of coal; (3) cheap and plentiful supplies of labor. Obviously cheap labor also means low trans-handling charges.

Mr. Chang contends that at present agricultural products constitute the bulk of the Chinese railroad traffic. He might also have mentioned the important part played by human traffic. Regarding minerals, Mr. Chang rightly states that the country's resources are still unmapped and untapped. I agree with him that it is quite possible that with adequate development China may become as rich a nation as the United States or Soviet Russia in course of the next fifty years and be able to supply the world with vast quantities of minerals and other products.

Naturally, here in America, we are especially concerned with the part our country has played in railroad construction in China and more particularly in what we may do in the future. It is patent from a perusal of Mr. Chang's very exhaustive review that our active interest has been sporadic and that, relatively speaking, we have not assumed an important role in railroad construction in China. Little mention is, however, made by Mr. Chang of the substantial contributions we have made in the supply of equipment, technical counsel and facilities for the training of engineers for China's railroads.

The fact that we have not participated in a larger way in railroad construction and financing in China is not entirely to our discredit. I recall about a quarter of a century ago, an American prospective railroad concessionaire came to China, enthusiastically set-up to participate in railroad construction in a big way. Some of our international competitors sprawled before him a map of China and pointed out designated spheres of influence claimed by certain foreign powers for their respective railroad developments. After he looked it over carefully, he asked "But where is the Chinese sphere of influence?" It would have required something more than a railroad reconnaissance engineer to thread his way around the already staked-out spheres of influence if one would avoid serious international complications.

The war has changed all this. Even prior to the outbreak of Japanese-Chinese hostilities, as Mr. Chang clearly indicates, conditions were already shaping themselves in such a way, with Chinese banks stepping into the picture, so that our financiers and manufacturers were beginning to evince an active interest

in railroad construction in China. In this connection, Mr. Chang makes the following revealing statement:

The old order must pass and yield its place to a new order in which co-operation will be the dominant feature. This new formula was already adopted in my negotiations for new construction loans and for the rehabilitation of old ones; and both creditors and debtors were fully satisfied with that arrangement.

He further elucidates this subject in his contention that:

In the financing of railroad construction, the primary object of the Chinese government is to destroy the atavistic system of spheres of influence and to assure China against any possible revival of political interference from without.

However, as Mr. Chang so clearly points out, in post-war China, there will be very alluring opportunities for foreign railroad investments, without which China's progress along the path of modernization will be seriously retarded. Mr. Chang suggests a ten-year program involving the construction of 14,500 miles of railroads with one-half of this amount each five years. He estimates that the country will require the total stipulated in the writings of Sun Yat-sen, namely, 100,000 miles, or nearly ten times China's present mileage. He insists that future foreign participation in railroad investments must be in China's railroads as a whole, rather than in any designated or specific lines, but with the understanding that purchases of imported materials will be proportioned on the basis of the investments of the respective countries participating in the loans. While he contends that the revenues of the Chinese railroads after the war will more than suffice to service the loan obligations, yet he recommends as additional security, revenues derived from working mineral deposits and from the operations of certain public utilities along the lines, both of which will have been made possible contributory factors by the railroads constructed.

Mr. Chang makes no mention of the probable place in China's railroad construction for outmoded or abandoned equipment which in a post-war world should amount to enormous quantities. Here in America, where our railroads require equipment for increasingly higher speeds and heavier loads, we may have much used equipment which can be purchased at a fraction of replacement costs and yet which possesses a ten to twenty years longer span of life, hence may serve China's needs admirably. As Mr. Chang relates, the Chinese wish in their railroad construction to secure a maximum of mileage at a minimum of cost. With expert engineering inspection, much of our outmoded or abandoned equipment after the war may find a fitting place in a country such as China where lower speeds and lighter loads may for some years make the purchases of these materials definitely economical.

American concerns and individuals interested in post-war China would do well to study Mr. Chang's excellent and well-timed presentation of the most important subject bearing upon the modernization of this, the most populous of nations. The railroad will prove to be the greatest single factor in the economic regeneration of a people, destined in their modernization, if it proceeds along sound lines, to give to the world its most thrilling drama, since the new China presents unprecedented opportunities for trade and industry.

* Mr. Arnold spent many years in China and Japan as a representative of the United States Departments of State and Commerce, from which service he has now retired. He is chairman of the China Council, Berkeley, Cal.

† Published by the John Day Co., N. Y., price \$5.

Railroads-in-War News

Eastman Would Ban Freight Expeditors

Calls for the discontinuance of activities which "definitely impede efficiency"

Discontinuance of the practice of employing freight expeditors has been called for by Director Eastman of the Office of Defense Transportation, who asserted in a November 1 statement that such activities "definitely impede" efficiency and "ought not to be tolerated under existing transportation conditions." The statement called upon the railroads to report "every instance" of expeditor activity to ODT, and stated that the matter was being called to the attention of all government agencies.

This expeditor situation was brought to light sometime ago in the editorial entitled "Do Expeditors Expedite?" which appeared in the *Railway Age* of August 14, page 266. Mr. Eastman's November 1 statement follows:

"It has recently come to my attention that numerous shippers of railroad freight are employing so-called freight expeditors in an effort to speed up the movement and delivery of particular cars of freight. These individuals watch the progress of cars between origin and destination and attempt to expedite their movement through terminals, yards, and transfer points. They subject yardmasters and other operating men to frequent inquiries and are constantly trying to obtain preferential movement of the cars in which they are interested.

"I am convinced that the employment of freight expeditors, whether by private shippers or by government shippers, is a practice that ought not to be tolerated under existing transportation conditions. Freight expeditors cannot gain preference for their employers without imposing sacrifices on other shippers. Their activities waste the time and hamper performance of the duties of yardmasters and other railroad employees. The ultimate result is to slow down the movement of all freight and aggravate the very conditions which led to employment of expeditors in the first place.

"The railroads, carrying a load of freight traffic surpassing anything in their history, are exerting every effort to move it as expeditiously as possible. By and large, their freight performance to date has been nothing short of remarkable. Despite the high level of operating efficiency already attained, moreover, active efforts are now being made to effect a further increase of 10 per cent in the overall efficiency of freight car performance.

"Since the activities of freight expedit-

Railroad Program on Mutual Network

On November 10, from 11:15 to 11:30, Eastern War Time, the Mutual Broadcasting System will present a program entitled "Transportation—The Fourth Front." The program will originate in the studios of Station WOL in Washington, D. C.

Participating in the program will be Director Joseph B. Eastman of the Office of Defense Transportation, Major General Charles P. Gross, chief of the Army's Transportation Corps, and J. J. Pelle, president of the Association of American Railroads. Albert R. Beatty, manager of the A. A. R.'s Publicity Section, will act as moderator.

ers definitely impede transportation efficiency, I believe it is the obligation of the railroads to report every instance of such activity to the Office of Defense Transportation, in order that we may make appropriate representations to the shippers concerned. I am therefore bringing this matter to the attention of railroad officials. I am also transmitting this statement to the heads of all government agencies."

N. A. M. Convention to Hear Eastman and Nelson

The National Association of Manufacturers terms its annual convention to be held at the Waldorf-Astoria Hotel, New York, on December 8-10 the "Second War Congress of American Industry." "Production for Victory and Postwar Jobs" is to be the "keynote" of the "Congress."

Among the scheduled speakers are Donald M. Nelson, chairman, War Production Board; Joseph B. Eastman, director, Office of Defense Transportation; Wilfred Sykes, president, Inland Steel Company; and Tom M. Girdler, chairman of the board, Consolidated-Vultee Aircraft Corporation, and chairman, Republic Steel Corp.

Frederick C. Crawford, president, N. A. M., in making the announcement of the meeting, asserted that the nearly 10,000 members of the Association are not only "pledging their efforts to an unending and ever-increasing stream of guns, tanks, planes, ships . . . to make victory quicker", but "we are just as determined that when our fighting men do return they'll be able to take their rightful places at productive jobs in our enterprise system." He added that the "very idea that some people are thinking about doles and super-W. P. A.'s to take care of them is repugnant and intolerable."

To Make It Harder For a RR to Quit

Reed puts in a bill to make abandonment permits difficult to secure

Because "the Interstate Commerce Commission has apparently fallen into the habit of deciding these branch line abandonment cases with an adding machine," Senator Reed, Republican of Kansas, last week introduced S. 1489 "to establish additional standards and to declare the policy of Congress with respect to the abandonment of railroad lines."

The bill would declare that the construction and operation of railroad lines "induces the location of homes and the establishment of business enterprise and the development of communities"; and that abandonments entail "loss and hardship to individuals and disruption and destruction to established commerce," and endanger "the prosperity and continued existence of communities."

It next asserts that "within the past few years approximately one-tenth of the total railroad mileage of the United States has been abandoned," a situation which, together with pending applications, makes necessary the "additional standards" proposed. "It is accordingly declared to be the policy of Congress," the bill goes on, "not to permit the abandonment of railroads, once constructed and placed in operation as common carriers and thereby dedicated to the public use, unless and until it shall conclusively appear that the efficiency of the national transportation system will be increased thereby."

Then comes the bill's specific proposal, an amendment to paragraph (19) of the Interstate Commerce Act's section 1 which would preclude issuance by the commission of certificates authorizing abandonments unless specified conditions were met.

The commission would have to find that the line involved "is being economically and efficiently operated and that all reasonable efforts have been made to reduce to a minimum the operating expenses . . . including efforts to secure from public authorities all possible reduction in taxes"; and that "all reasonable efforts have been made to increase revenues from rates, fares, and charges . . . by increasing such rates, fares, and charges for local transportation, or through the imposition of differential charges . . .".

If the mileage proposed to be abandoned constitutes the entire mileage of a railroad, the bill would require a showing that the revenues "may not be improved by increased divisions," and that "all reasonable efforts to secure increased divisions" have

been made. Finally, there would have to be a showing that the continued operation of any line or portion of line proposed to be abandoned "will not produce revenues sufficient to cover the cost of such continued operation," and that the net loss would be of such consequence "that it will impose a burden inconsistent with the public interest upon members of the public"; or of such consequence that the carrier "may not consistently within its rights under the Constitution of the United States be required to meet such loss from the profits of its lines considered as an integrated operating system."

The commission would be authorized to make a preliminary report in abandonment proceedings, and to postpone final action "to permit the carrier to make such efforts to improve its net operating revenues as the commission may have indicated in such report." The provisions of the bill would apply to pending abandonment applications as well as to future proposals.

After its complaint that the commission was deciding abandonment cases "with an adding machine" Senator Reed's statement went on to say in part: "Doubtless, there may be some branch line mileage that should be abandoned. Equally doubtless, the public interest in some of this mileage is sufficiently important to require more consideration than has been given that factor in some instances.

"Anyway, I am trying to make it necessary to do more than use an adding machine in deciding these cases. Notoriously, railroads applying for authority to abandon branch line mileage have loaded down the record with extravagant estimates of expenses and without full consideration of the revenue side. Fantastic figures of expenditures in the future, unless they are permitted to abandon some of these branch lines, have been submitted. Notwithstanding that it has a moderately complete organization available for that purpose, the Interstate Commerce Commission has not analyzed such testimony to determine its acceptability."

Payments to Contract Truckers

The Office of Price Administration has revised its regulations covering adjustments of maximum rates for the transportation of property by carriers, other than common carriers, performing pick-up and delivery or local transfer service for rail, motor and water line haul carriers. The changes, effective November 4, are contained in Amendment No. 46 to Revised Supplementary Regulation No. 14 to the General Maximum Price Regulation.

Wants Longest Possible Lake Shipping Season

Great Lakes carriers have been urged by Director Eastman of the Office of Defense Transportation to do their utmost during the closing weeks of the season to keep their ships "fully employed as long as possible, consistent with sound operating practice and with regard to the safety of life and property." Embodied in the appeal was a word of praise for the "splendid record" made thus far, but it also said: "We are now entering the critical period in lake transportation, which will

Another N. Y. Central Battalion

The 718th Railway Operating Battalion, organized on the New York Central, has just been called into service—according to a statement made to newspapermen in Washington by President F. E. Williamson on October 29.

Four such units—including the 718th—have had their origin on the New York Central, Mr. Williamson went on to say. These are the 701st Railway Grand Division and the 753rd Shop Battalion (now in service overseas); and the 721st Operating Battalion, which has been in training for some months in this country.

Mr. Williamson pointed out that, besides providing much of the personnel for these railway units, the railroads of the country have thousands of other employees in the armed services (200,000 in all) and that this contribution is one of the reasons why the carriers now face such a serious shortage of manpower.

determine whether or not essential amounts of iron ore, coal, grain, and limestone will be transported this season."

The ODT announcement making public Mr. Eastman's message said that the ore movement from now until the close of navigation is to be modified to the extent necessary to assure movement of the remaining portion of the 1943 quota of grain. In that connection, ODT has arranged for the release of ore boats to carry in the first half of November 15,000,000 bushels of grain.

I. C. C. Service Order on Coal

With the new "work stoppage" in the coal mines, the Interstate Commerce Commission this week reinstated the service order which had governed railroad deliveries of bituminous coal during the previous shutdowns. The reinstated order is Service Order No. 120-F, which, like its predecessors, forbids railroads from delivering bituminous coal to consignees unless they certify that they have less than 10 days' supply on hand. The order became effective November 1.

Meanwhile, President Roosevelt has again taken over the mines, and appointed Solid Fuels Administrator Ickes as the administrator of the seized properties. Mr. Ickes stated that the "freeze" of the coal in transit would make available about 2,000,000 tons "which can be diverted to industrial consumers who are inadequately protected."

There are various exceptions to the commission's order, such as coal consigned to Canadian destinations, coal consigned for water movement, coal specifically consigned for vessel use, coal for delivery to a connecting carrier, and coal specifically consigned for all-rail movement to retail dealers.

Prior to the issuance of 120-F, the commission had on October 29 issued Service Order 162, only to cancel it on November

1 with Service Order 162-A. Issued at the request of the Office of Defense Transportation, it had embargoed carload shipments of anthracite of the size barley or smaller. An ODT announcement explained that the matter had been certified to the I. C. C. after the Solid Fuels Administration had requested such action.

Railroads May Get Extension of Five-Year Amortization Plan

An executive order is under consideration which would allow railroads to continue writing off, over a period of five years, the cost of new facilities certified by the Office of Defense Transportation as necessary for the successful prosecution of the war, it was learned last week. As noted in the *Railway Age* of October 16, page 616, the previous arrangements for such write-offs are no longer available under recent regulations of the War and Navy departments which formerly made the necessary certifications.

The proposed executive order would transfer to ODT, in the case of railroad facilities, the authority formerly exercised by the War and Navy departments to certify projects for the five-year amortization. It is pointed out that the railroads need the relief because they, unlike other industries which have completed wartime plant expansion, are right in the middle of large programs for the acquisition of equipment and construction of facilities.

Favorable Reports on Truck Forwarder Rate Bill

The House committee on interstate commerce has reported favorably H.R. 3366, the bill introduced by Chairman Lea to amend section 409 of the Interstate Commerce Act so as to extend the period during which forwarders are required to discontinue joint-rate arrangements with motor carriers and shift over to the use of assembling and distribution rates published by the carriers. The bill as reported proposes an extension of 18 months, the committee having cut six months off the two-year proposal in the original measure.

The bill also proposes to liberalize section 409's provisions with respect to the establishment during the transition period of additional joint rates to meet competitive conditions. The committee's report said that the bill is approved by the Office of Defense Transportation, the Interstate Commerce Commission, and the War Department. A like bill (S. 1425) introduced in the Senate by Chairman Wheeler of the committee on interstate commerce was reported favorably to the Senate after hearings this week before a subcommittee of that committee.

Bradshaw Named Assistant Traffic Manager of M.R.C.

C. O. Bradshaw, formerly general manager of the Chicago, Milwaukee, St. Paul & Pacific and later president of Standard Equipments, Inc., of New York and Chicago, has been elected assistant traffic manager of Metals Reserve Company, subsidiary of the Reconstruction Finance Corporation. Mr. Bradshaw will be in charge of stockpiling, warehousing and transportation, with Washington, D. C. headquarters.

GENERAL NEWS

Railroads Accept Extended Rate Cut Do not contest commission's suspension to July 1 of Ex Parte 148 increases

In response to the Interstate Commerce Commission's show-cause order in its Ex Parte No. 148 proceedings, the railroads have informed the commission that they will not oppose an extension to July 1, 1944, of the suspension of the freight rate increases which the commission on April 6 ordered put into effect from May 15 to January 1, 1944, thus virtually wiping out the increases granted in 1942.

This action was announced after the meeting on October 29 of the board of directors of the Association of American Railroads. It was pointed out at the same time that a petition for restoration of the increases could be filed with the commission later if there should be a radical change in the wage or tax situation. The text of the railroads' reply indicated that, "because of peculiar uncertainties now facing them with respect to both their costs of operation and their volume of traffic in the immediate future, the petitioning railroads consent to the entry by the commission of an order" extending the suspension for six months, and it was explained that the railroads felt it best not to contest the extension in view of the present uncertain situation with respect to wage increases and future earnings.

Meanwhile, the commission was receiving replies to its show-cause order from other parties to the Ex Parte No. 148 proceedings. The New Orleans Public Belt asked that it be permitted to restore the increases, and the American Trucking Associations requested that the increases be restored as to l. c. l. freight, pending further consideration of the contention that the railroads' l. c. l. operations at present do not pay their proper share of expenses. Several organizations of shippers filed replies approving extension of the suspension, while a reply was filed on behalf of most of the state commissions asking that the increases which had been authorized in 1942 be permanently suspended.

Following the railroads' announcement of their decision not to contest the extension of the suspension for another six months, heads of three war agencies of the federal government—the Price Administrator, the War Food Administrator, and the Director of Economic Stabilization—on October 30 filed with the commission a reply to the effect that the commission acted justly in ordering the suspension and requesting its extension for another six months, as pro-

posed in the show-cause order. It was upon the petition of the Price Administrator and the Economic Stabilization Director that the commission reopened the Ex Parte No. 148 proceedings in February of this year, and it was largely upon the contention of counsel and witnesses for these parties that a rate reduction would contribute to the success of the government price stabilization program that the commission, by a six-to-five decision, based its suspension of the increases for the period from May 15 to January 1, 1944.

The government agencies' reply was devoted largely to an effort to demonstrate that the railroads are reporting "unprecedented" increases in net revenues, net operating income, and net income, and therefore are in a financial position so favorable that "there seems to be no good reason for further short term suspensions." As the roads are now earning "unduly high" returns upon their properties, they said further, "no consideration should be given to the fact that in prior years the railroads have earned less than a fair return."

As reported in *Railway Age* of October 16, page 615, the commission's show-cause order of October 8 required that parties to the Ex Parte No. 148 proceedings file replies by October 30, indicating that action would then be taken upon the proposal to extend the suspension until July 1 next without further hearings or oral argument.

Record Freight Run With Diesel on B. & M.

Locomotive 4200-4201, a new 5,400-hp. Diesel-electric, has set a record on the Boston & Maine for non-stop freight-train performance. Hauling 125 cars, totaling 3,839 actual tons, over the 186 miles between Boston and Mechanicville, N. Y., the run was accomplished non-stop without use of helper engines in 6 hr. 25 min.

The usual average run with steam locomotives which must stop for water is about 10 hr., and the average load of 3,000 actual tons requires pusher engines over two steep grades.

The record-setting Diesel-electric is one of 12 such new locomotives ordered by the B. & M., two of which are now in service, and a third is to be delivered this year.

A. A. R. Annual Meeting December 2

The annual meeting of member roads of the Association of American Railroads will be held in Chicago on December 2. The date was agreed upon at the October 29 meeting of the A. A. R. board of directors in Washington, D. C.

\$681 Million Net

Income in 9 Mos.

Net railway operating income for same period was \$1,073,083,008

Class I railroads in the first nine months of this year had an estimated net income, after interest and rentals, of \$681,400,000 as compared with \$571,971,991 in the first nine months of 1942, according to the Bureau of Railway Economics of the Association of American Railroads. The nine-months net railway operating income, before interest and rentals, was \$1,073,083,008, compared with \$976,300,977 in the corresponding 1942 period.

In the 12 months ended with September, the Class I roads had a rate of return of 5.86 per cent on their property investment, as compared with 4.57 per cent for the 12 months ended with September 30, 1942.

September's estimated net income was \$69,700,000, compared with \$105,190,123 in September, 1942; while the net railway operating income for that month was \$110,175,208, compared with September, 1942's \$155,062,969. September is the fourth consecutive month in which the earnings of the carriers have shown a decline, the A.A.R. statement pointed out.

Operating revenues in the nine months totaled \$6,714,625,548 compared with \$5,327,539,489 in the same period in 1942, an increase of 26 per cent. Operating expenses amounted to \$4,042,579,277 compared with \$3,346,737,396, an increase of 20.8 per cent.

Class I roads in the nine months paid \$1,454,725,894 in taxes compared with \$872,554,335 in the same period in 1942. For September alone, the tax bill amounted to \$172,934,247 an increase of \$46,106,902 or 36.4 per cent above September, 1942. Thirteen Class I roads failed to earn interest and rentals in the nine months, of which six were in the Eastern district, two in the Southern Region, and five in the Western district.

Class I roads in the Eastern district in the nine months had an estimated net income of \$293,500,000 compared with \$242,694,753 in the same period last year. Their nine-months net railway operating income was \$442,853,165 compared with \$405,683,945.

Gross in the Eastern district in the nine months totaled \$2,971,423,041 an increase of 18.7 per cent compared with the same period in 1942, while operating expenses totaled \$1,889,615,104 an increase of 16.7 per cent.

The Eastern district's estimated net income for September was \$28,900,000 com-

pared with \$41,008,132 in September, 1942. The month's net railway operating income amounted to \$44,571,785 compared with \$61,745,890.

Class I roads in the Southern region in the nine months had an estimated net income of \$108,100,000 compared with \$95,387,864 in the same period last year. Those same roads in the nine months had a net railway operating income of \$157,022,364 compared with \$144,492,535.

Operating revenues in the Southern region in the nine months totaled \$967,491,170 an increase of 29.6 per cent compared with the same period of 1942, while operating expenses totaled \$547,582,681 an increase of 22.2 per cent above 1942.

In the Southern region for September the estimated net income was \$9,500,000 compared with \$13,909,609 in September, 1942. The month's railway operating income amounted to \$15,341,282 compared with \$20,068,296.

Class I roads in the Western district in the nine months had an estimated net income of \$279,800,000 compared with \$233,889,374 in the same period last year. Their nine-months net railway operating income was \$473,207,479 compared with \$426,124,497.

Gross in the Western district in the nine months totaled \$2,775,711,337 an increase of 33.6 per cent compared with the same period in 1942, while operating expenses totaled \$1,605,381,492 an increase of 25.5 per cent.

September's estimated net income in the Western district was \$31,300,000 compared with \$50,272,382 in September, 1942. Net railway operating income amounted to \$50,262,141 compared with \$73,248,783 in September, 1942.

CLASS I RAILROADS—UNITED STATES

| | Month of September 1943 | 1942 |
|--|----------------------------|---------------|
| Total operating revenues | \$776,539,302 | \$697,792,146 |
| Total operating expenses | 478,074,366 | 399,705,707 |
| Operating ratio — per cent | 61.56 | 57.28 |
| Taxes | 172,934,247 | 126,827,345 |
| Net railway operating income (Earnings before charges) | 110,175,208 | 155,062,969 |
| Net income, after charges (estimated) | 69,700,000 | 105,190,123 |

| | Nine Months Ended September 30 | |
|--|--------------------------------|---------------|
| Total operating revenues | 6,714,625,548 | 5,327,539,489 |
| Total operating expenses | 4,042,579,277 | 3,346,737,396 |
| Operating ratio — per cent | 60.21 | 62.82 |
| Taxes | 1,454,725,894 | 872,554,335 |
| Net railway operating income (Earnings before charges) | 1,073,083,008 | 976,300,977 |
| Net income, after charges (estimated) | 681,400,000 | 571,971,991 |

Journal Bearings' Thickness Of Lining Is Increased

By action of the Association of American Railroads, Mechanical division, as announced in a circular letter issued by Secretary A. C. Browning, the A.A.R. emergency design of journal bearing is modified, effective October 20, 1943, by increasing the lining thickness from the present nominal of $\frac{1}{8}$ in. to a new nominal of $\frac{1}{4}$ in., maintaining the same tolerances for H and P dimensions as heretofore (plus or minus $\frac{1}{32}$ in.).

A revised drawing, which accompanied

the letter, is supplied to supersede the present emergency design drawing in the Manual of Standard and Recommended Practice. Table II of the specifications for relined journal bearings has been revised as shown in the accompanying table.

| CROWN THICKNESS OF RELINED BEARINGS—FINISHED DIMENSIONS AFTER BROACHING | |
|---|---|
| Journal Size, In. | Total Thickness, In. |
| 3 $\frac{3}{4}$ by 7 | $\frac{25}{32}$ |
| 4 $\frac{1}{4}$ by 8 | $\frac{25}{32}$ |
| 5 by 9 | $\frac{13}{16}$ |
| 5 $\frac{1}{2}$ by 10 | $\frac{13}{16}$ |
| 6 by 11 | $\frac{13}{16}$ |
| 6 $\frac{1}{2}$ by 12 | $\frac{15}{16}$ |
| Tolerances | Plus or minus $\frac{1}{32}$ in., all sizes |

Applicability of Rates

Bills to provide that "the established railroad freight rates cover the receipt and delivery of loaded cars at the points of loading and unloading" have been introduced in Congress by Senator Brooks and Representative Howell, Republicans of Illinois. The Brooks bill (S. 1492) would accomplish its purpose by an amendment to the Interstate Commerce Act's section 6(1), while the Howell bill (H.R. 3554) proposes to amend section 1(5).

Local Roads Bill

Senator Stewart, Democrat of Tennessee, has introduced S. 1498 to provide federal aid in the post-war period for the construction of rural local roads. The bill would authorize an appropriation of \$1,125,000,000 "to become available at the rate of \$375,000,000 a year for each of the three years immediately following the termination of the war."

Meanwhile agreements with states and local authorities for the making of plans and surveys could be entered by the commissioner of the Rural Local Roads Administration which the bill would create within the Federal Works Agency. The way for this would be cleared by a provision authorizing the administrator of FWA to cooperate with the states and their subdivisions "in the construction of rural local roads."

September Truck Loadings 5.6 Per Cent Above 1942

The volume of freight transported by motor carriers reporting to American Trucking Association, Inc., in September showed an increase of 0.4 per cent over August and an increase of 5.6 per cent over September, 1942, according to A.T.A.

Comparable reports were received from 332 truckers in 43 states. Their September volume totaled 2,430,758 tons, compared with 2,422,020 tons in August and 2,301,933 tons in September, 1942. The A.T.A. index, based on the 1938-1940 average monthly tonnage of the reporting carriers, was 193.72 as compared with August's 191.35.

The breakdown by commodities showed that a little more than 71 per cent of the total tonnage was reported by carriers of general freight. Their volume was 0.2 per cent under August, but 1.9 per cent above September, 1942. Transportation of petroleum products, accounting for about 15 per cent of the total, reported a 3.8 per cent increase over August and a 23.4 per cent rise above September, 1942. Haulers of iron and steel products, with 7.5 per cent

of the total, carried 3.5 per cent less in September than in August, but 33.1 per cent more than in September, 1942.

Approximately six per cent of the total was miscellaneous commodities, including tobacco, milk, textile products, coke, bricks, building materials, cement and household goods. September tonnage in this class was up 0.3 per cent from August and 0.5 per cent from September of last year.

Lake Erie Truck "Ferry" Halts

Director Joseph B. Eastman of the Office of Defense Transportation has expressed his disappointment over the "suspension" of the truck ferry service between Cleveland, Ohio, and Detroit, Mich., on Lake Erie, put into effect, as reported in *Railway Age* of June 19, page 1241, by Supplementary Order ODT 3, Revised 25.

While daily operation of the two lake ferry vessels has reduced truck mileage between these points about 4 million miles in $4\frac{1}{2}$ months, this plan for the conservation of tires, gasoline, and vehicles has not been a financial success, Mr. Eastman's statement indicated. In view of the approach of the close of navigation on the lake, no plan for immediate introduction of a substitute arrangement is under consideration, it was explained, but the ODT director expressed his hope that some alternative conservation measure could be put into effect next summer, "when the need for motor truck conservation will probably be at least as great as it has been during the past months."

Lag in Fitting AB Brakes Is Cause of Admonition

The concern of the Interstate Commerce Commission over the continued operation of large numbers of freight cars equipped with the type K brake has again been expressed, this time in a report, prepared under the direction of Commissioner Patterson, of the investigation of an accident on the Pennsylvania near Slope, Pa., on September 10.

The accident originated in the derailment on a descending grade of two cars of a 120-car train of empty tank cars and was complicated by the involvement of two other trains passing on parallel tracks which had been fouled by the derailed cars. The commission's investigation disclosed that only 10 of the 120 cars in the train were equipped with standard AB brakes, and that these cars were "distributed throughout the train so that important advantages of the AB type of brake equipment, namely, faster serial action, emergency after service and reduction of shock from initial application, were not available."

According to the report, the accident was caused by an "insufficient number" of cars being equipped with "adequate power brakes to control safely movement of the train." The report recommended "that a sufficient number of cars equipped with AB brakes be included in each train, properly spaced, so that the movement of the train can be safely controlled by the train brakes."

No railroad-owned cars were included in the equipment of the derailed train. Ownership of the cars in the train was divided among 18 private car operators, and only 16.6 per cent of all cars of these

18 private car owners had been equipped with AB brakes up to June 30, the report pointed out, as compared with 60.6 per cent of all of the Pennsylvania's cars so equipped, although 85 per cent of the 10-year period allotted for application of the new standard brake had then elapsed.

Freight Car Loading

Loadings of revenue freight for the week ended October 30 totaled 883,678 cars, the Association of American Railroads announced on November 4. This was a decrease of 21,641 cars, or 2.4 per cent below the preceding week, a decrease of 6,882 cars, or 0.8 per cent below the corresponding week last year, and a decrease of 11,067 cars, or 1.2 per cent below the comparable 1941 week.

Loading of revenue freight for the week ended October 23 totaled 905,319 cars, and the summary for that week as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loading

| | For the Week Ended Saturday, October 23 | | |
|--------------------------------|---|------------|------------|
| District | 1943 | 1942 | 1941 |
| Eastern | 172,649 | 165,167 | 189,727 |
| Allegheny | 192,977 | 186,118 | 196,790 |
| Pocahontas | 55,168 | 54,468 | 59,423 |
| Southern | 123,216 | 127,420 | 124,575 |
| Northwestern | 143,419 | 145,749 | 143,587 |
| Central Western | 141,394 | 146,589 | 138,066 |
| Southwestern | 76,496 | 77,751 | 61,437 |
| Total Western Districts | 361,309 | 370,089 | 343,090 |
| Total All Roads | 905,319 | 903,262 | 913,605 |
| Commodities | | | |
| Grain and grain products | 59,665 | 47,665 | 35,083 |
| Live stock | 27,750 | 24,362 | 20,378 |
| Coal | 172,123 | 167,199 | 165,228 |
| Coke | 15,319 | 13,989 | 13,132 |
| Forest products | 43,812 | 49,209 | 45,917 |
| Ore | 73,724 | 76,075 | 68,455 |
| Merchandise i.e. | 105,944 | 92,189 | 159,828 |
| Miscellaneous | 406,982 | 432,574 | 405,584 |
| October 23 | 905,319 | 903,262 | 913,605 |
| October 16 | 912,328 | 901,251 | 922,884 |
| October 9 | 906,276 | 909,250 | 903,877 |
| October 2 | 910,643 | 907,286 | 917,896 |
| September 25 | 907,311 | 897,427 | 919,794 |
| Cumulative Total, | | | |
| 43 Weeks | 35,139,263 | 35,860,873 | 34,926,011 |

In Canada.—Carloadings for the week ended October 23 totaled 73,101 compared with 66,046 for the previous week which contained a holiday, and 73,033 for the corresponding period last year, according to the compilation of the Dominion Bureau of Statistics.

| Total for Canada: | Total Cars Loaded | Total Cars Rec'd from Connections |
|---------------------|-------------------|-----------------------------------|
| Oct. 23, 1943 | 73,101 | 37,901 |
| Oct. 16, 1943 | 66,046 | 38,342 |
| Oct. 9, 1943 | 73,472 | 38,092 |
| Oct. 24, 1942 | 73,033 | 34,823 |

Cumulative Totals for Canada:

| | | |
|---------------------|-----------|-----------|
| Oct. 23, 1943 | 2,805,684 | 1,614,280 |
| Oct. 24, 1942 | 2,776,360 | 1,453,668 |
| Oct. 25, 1941 | 2,606,506 | 1,273,248 |

Collects Their Tickets Before They Board the Trains

In order to expedite train movements, protect revenues and remedy an almost impossible feat of ticket and cash fare collection on crowded trains returning from race tracks, the Long Island this summer instituted the European practice of collecting tickets at gates before passengers boarded the trains.

The success of this plan was evidenced

on the heaviest day at the Belmont Park tracks, when more than 60,000 passengers were handled at the Queens Village station without confusion or accident. At this point there were stationed eight ticket collectors. Passengers who had not purchased round-trip tickets in Brooklyn or New York, bought them at booths convenient to the entrances and surrendered them before entering upon the station platforms.

Because of the ease with which this system was managed on one of the busiest sections of main-line railroad in the country, it was decided to install similar facilities at Aqueduct and Locust Manor stations. The railroad estimates that when the 190-day season has ended November 15, it will have carried upwards of 4,700,000 race "fans." Average daily race track travel has been in excess of 25,000.

On June 27, gate control was experimented with on beach travel trains returning from Rockaway to New York and Brooklyn. Trains formerly producing 500 to 600 cash fares had such collections reduced 90 per cent. During peak hours on Sunday and holiday nights, and early Monday morning commuting rush hours, passengers at all stations on Rockaway Peninsula were required to submit tickets before entering station platforms.

Cash fare collections on Long Island trains for August were \$25,230.80 under cash fare collections for July. Without this control in effect it is estimated cash fares in August would have exceeded July by \$100,000.

Instruction Car for Enginemen

One-hundred fifty Canadian Pacific 3- to 5-year locomotive firemen will have graduated as enginemen on the eastern lines between September 30 and December 1, following final examinations in the traveling mechanical instruction car which covers all lines from Port Arthur to Saint John, N. B., and the C. P. R. subsidiaries, the Quebec Central and Dominion Atlantic. Continuing at present as firemen, graduates soon will receive work as yard engineers.

This traveling school has been established in a car formerly devoted solely to air-brake instruction. On the line nine months each year, and given over to examinations for two months, the car for the balance of the time acts as a school and forum for the discussion of train rules and practice for train and engine crews. Seventy students can be accommodated at each sitting. All courses are illustrated on a screen with slides, eliminating the need for paper charts and sectional models. This winter, a new course on coal conservation is to be added, in line with the announced effort of Canadian railways to save 500,000 tons of fuel.

Senior enginemen help prepare the firemen for the tests, and a grade of "80" is required to pass the oral examination. Memorized answers are discouraged by pertinent questions to further establish the candidates' knowledge. The faculty is comprised of R. F. Thomas, general air brake inspector and traveling "dean"; A. LaChance, supervisor of car equipment; and H. Haney, supervisor of air conditioning, all three of the eastern lines, Toronto.

For those in charge of the car, there are living quarters, including three berths,

shower, toilet, clothes lockers, cabinets for slides and correspondence and a small kitchen. The classroom proper is about 50 feet long.

Ban on Truck Route Extensions Exempts Tank Trucks

Operations of tank trucks are not affected by the recent action of the Office of Defense Transportation prohibiting truck operators from undertaking new operations or extending existing ones, an ODT statement of November 3 pointed out. The terms of the prohibitory orders, from which tank trucks are thus exempted, were reported in *Railway Age* of October 30, page 696.

Nichols Heads B. I. R. Traffic Studies Section

J. L. Nichols, principal business specialist for the Transportation Board of Investigation and Research, has been appointed chief of the board's Traffic Studies Section. He succeeds Henry L. Purdy, who resigned recently to join the Missouri Pacific's research staff.

Mr. Nichols came to the B. I. R. in March, 1942, on leave of absence from the New York Central, where he had been chief clerk in the general stores department at Cleveland, Ohio. Previously he had held various positions in that road's mechanical, accounting, and stores department. During World War I he was chief clerk in the office of the mechanical assistant to the district director, United States Railroad Administration, at Cincinnati, Ohio. In 1919, Mr. Nichols returned to the N. Y. C., being employed in the accounting department at Van Wert, Ohio, until 1929, when he became storekeeper at Indianapolis, Ind. From Indianapolis he went to Cleveland in 1936.

Air Express Increases

June air express shipments totaled 1,302 tons, showing an increase of 48.7 per cent over June, 1942, and breaking all previous monthly records, according to the air express division of Railway Express Agency. Shipments for the month rose 8.8 per cent, totaling 125,033, and gross revenue went up 30 per cent.

For the first six months of the year, air express handled totaled 13,775,096 lbs., an increase of 56.6 per cent over the 1942 period, with its 8,791,635 lbs. For the six months' period shipments rose 6.5 per cent and gross revenue 47 per cent.

With most of the air cargo consisting of shipments of essential war materials, more than 43 tons per day were handled in June, with an average shipment being flown more than 1,000 miles.

I. C. C. Service Orders

In addition to orders issued in conjunction with emergency activities arising out of the coal miners' strike, as reported elsewhere in this issue, the Interstate Commerce Commission has issued Service Order No. 161, effective October 27, which prohibits reicing of refrigerator cars loaded with citrus fruits originating at points in Texas and initially iced in Texas. This order also prohibits salting of bunker ice in refrigerators.

tor cars loaded with citrus fruits originating in Florida.

The commission has set aside three service orders: No. 137, which permitted re-routing of a special shipment of machinery; No. 133, as amended, which applied to the use of top or body ice in refrigeration of vegetables; and No. 148, which established restrictions on shipments of oranges from Arizona or California.

By Amendment No. 15 to Service Order No. 80, effective November 4, the commission designated Burlington, Iowa, as a market area under that order, and appointed A. J. Skeva as agent to issue permits for the movement of grain in that area.

Club Meetings

The New England Railroad Club will next meet at the Hotel Vendome, Boston, November 9, at 7:45 p. m. Frank S. Austin, purchasing agent, New York Central, and a former president of the club, will address the group on "Railroad Purchasing in War Time".

J. M. Hall, chief engineer, Cardwell Westinghouse Company, Chicago, will speak before the Eastern Car Foreman's Association on November 12 at the Engineering Societies Building, 29 West 39th street, New York, starting at 8 p. m. Mr. Hall's subject is, Draft Gears and Their Relation to Freight Car Operation and Maintenance. The usual discussion period will follow the presentation of the paper of the evening.

Traffic Club Essay Contest

The Associated Traffic Clubs of America is sponsoring another essay contest, with any member of the individual club units eligible for entry. Essays of 1,000 words or less are to be written on "Transportation in the Post-War Era", and the first four prizes will be in war bonds of \$100, \$75, \$50 and \$25 denominations, respectively. All papers must be submitted by December 31, 1943, to E. H. Henken, chairman, Club Publications Committee, Associated Traffic Clubs of America, P. O. Box 993, Louisville, Ky.

Meetings and Conventions

The following list gives names of secretaries, dates of next or regular meetings and places of meetings:

ALLIED RAILWAY SUPPLY ASSOCIATION.—J. F. Gettrust, P. O. Box 5522, Chicago, Ill.

AMERICAN ASSOCIATION OF FREIGHT TRAFFIC OFFICERS.—W. R. Curtis, G. M. & O. R. R., 105 W. Adams St., Chicago, Ill.

AMERICAN ASSOCIATION OF GENERAL BAGGAGE AGENTS.—E. P. Soebbing, Railway Exchange Bldg., St. Louis, Mo.

AMERICAN ASSOCIATION OF PASSENGER TRAFFIC OFFICERS.—B. D. Branch, C. R. R. of N. J., 143 Liberty St., New York, N. Y.

AMERICAN ASSOCIATION OF RAILROAD SUPERINTENDENTS.—F. O. Whiteman, Room 332, Dearborn Station, Chicago, Ill.

AMERICAN ASSOCIATION OF RAILWAY ADVERTISING AGENTS.—E. A. Abbott, Poole Bros., Inc., 85 W. Harrison St., Chicago, Ill.

AMERICAN ASSOCIATION OF SUPERINTENDENTS OF DINING CARS.—F. R. Borger, C. I. & L. Ry., 836 S. Federal St., Chicago, Ill.

AMERICAN RAILWAY BRIDGE AND BUILDING ASSOCIATION.—Miss Elinor Heffern, Room 822, 310 South Michigan Avenue, Chicago, Ill.

AMERICAN RAILWAY CAR INSTITUTE.—W. C. Tabbert, 19 Rector St., New York.

AMERICAN RAILWAY DEVELOPMENT ASSOCIATION.—J. B. Lanctot, Canadian National Rys., St. Paul, Minn.

AMERICAN RAILWAY ENGINEERING ASSOCIATION.—Works in cooperation with the Association of American Railroads, Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

AMERICAN RAILWAY MAGAZINE EDITORS' ASSOCIA-

TION.

—Page N. Price, Norfolk & Western Magazine, Roanoke, Va.

AMERICAN SHORT LINE RAILROAD ASSOCIATION.—J. H. Hunt, Tower Bldg., Washington, D. C.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS.—C. E. Davies, 29 W. 39th St., New York, N. Y. Annual meeting, November 29-December 2, 1943, Hotel Pennsylvania, New York, N. Y.

Railroad Division.—E. L. Woodward, Rail-

way Mechanical Engineer, 105 W. Adams St., Chicago 3, Ill. Annual meeting, December 2, 1943, Hotel Pennsylvania, New York, N. Y.

AMERICAN TRANSIT ASSOCIATION.—Guy C. Heck-

er, 292 Madison Ave., New York, N. Y.

AMERICAN WOOD PRESERVERS' ASSOCIATION.—H. L. Dawson, 1427 Eye St. N. W., Wash-

ington, D. C.

ASSOCIATION OF AMERICAN RAILROADS.—H. J.

Forster, Transportation Bldg., Washington 6, D. C.

Operations and Maintenance Department.

—Charles H. Buford, Vice-President, Transportation Bldg., Washington 6, D. C. Operating-Transportation Division.—L. R. Knott, 59 E. Van Buren St., Chi-

cago 5, Ill.

Operating Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Transportation Section.—L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.

Fire Protection and Insurance Section.—W. F. Steffens, New York Central, Room 3317, 230 Park Avenue, New York, N. Y.

Freight Station Section.—L. R. Knott, 59 E. Van Buren St., Chicago 5, Ill.

Medical and Surgical Section.—J. C.

Caviston, 30 Vesey St., New York 7, N. Y.

Protective Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Safety Section.—J. C. Caviston, 30 Vesey St., New York 7, N. Y.

Telegraph and Telephone Section.—W. A. Fairbanks, 30 Vesey St., New York 7, N. Y.

Engineering Division.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Construction and Maintenance Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Electrical Section.—W. S. Lacher, 59 E. Van Buren St., Chicago 5, Ill.

Signal Section.—R. H. C. Balliet, 30 Vesey St., New York 7, N. Y.

Mechanical Division.—Arthur C. Brown-

ing, 59 E. Van Buren St., Chicago 5, Ill.

Electrical Section.—J. A. Andreucci,

59 E. Van Buren St., Chicago 5, Ill.

Purchases and Stores Division.—W. J.

Farrall (Executive Vice-Chairman), Transpor-

tation Bldg., Washington 6, D. C.

Freight Claim Division.—Lewis Pilcher,

59 E. Van Buren St., Chicago 5, Ill.

Motor Transport Division.—George M.

Campbell, Transportation Bldg., Wash-

ington 6, D. C.

Car Service Division.—E. W. Coughlin

(Assistant to Chairman), Transpor-

tation Bldg., Washington 6, D. C.

Finance, Accounting, Taxation and Valuation

Department.—E. H. Bunnell, Vice-Presi-

dent, Transportation Bldg., Washington 6, D. C.

Accounting Division.—E. R. Ford, Trans-

portation Bldg., Washington 6, D. C.

Treasury Division.—E. R. Ford, Trans-

portation Bldg., Washington 6, D. C.

Traffic Department.—A. F. Cleveland, Vice-

President, Transportation Bldg., Wash-

ington 6, D. C.

ASSOCIATION OF RAILWAY CLAIM AGENTS.—F. L.

Johnson, Alton R. R., 340 W. Harrison St.,

Chicago, Ill.

BRIDGE AND BUILDING SUPPLY MEN'S ASSOCIA-

TION.—P. R. Austin, Johns-Manville Sales

Corp., Merchandise Mart, Chicago, Ill.

CANADIAN RAILWAY CLUB.—C. R. Crook, 4415

Marci Ave., N. D. G., Montreal, Que.

Regular meetings, second Monday of each month,

except June, July and August, Windsor Ho-

tel, Montreal, Que.

CAR DEPARTMENT ASSOCIATION OF ST. LOUIS.—Mo.

—J. J. Sheehan, 1101 Missouri Pacific Bldg.,

St. Louis, Mo. Regular meetings, third

Tuesday of each month, except June, July

and August, Hotel De Soto, St. Louis, Mo.

CAR DEPARTMENT OFFICERS' ASSOCIATION.—F. H.

Stremmel, 6536 Oxford Ave., Chicago, Ill.

CAR FOREMEN'S ASSOCIATION OF CHICAGO.—Ralph

J. Feddor, 2803 N. Campbell Ave., Chicago,

Ill. Regular meetings, second Monday of

each month, except June, July and August,

La Salle Hotel, Chicago, Ill.

CENTRAL RAILWAY CLUB OF BUFFALO.—R. E.

Mann, 1840-42 Hotel Statler, McKinley

Square, Buffalo, N. Y. Regular meetings,

second Thursday of each month, except June,

July and August, Hotel Statler, Buffalo,

N. Y.

EASTERN ASSOCIATION OF CAR SERVICE OFFICERS.—

H. J. Hawthorne, Union Railroad, East

Pittsburgh, Pa.

EASTERN CAR FOREMAN'S ASSOCIATION.—W. P.

Dizard, 30 Church St., New York 7, N. Y.

Regular meetings, second Friday of January,

March, April, May, October and November,

29 W. 39th St., New York, N. Y.

MASTER BOILER MAKERS' ASSOCIATION.—A. F.

Stiglmeier, 29 Parkwood St., Albany 3, N. Y.

NATIONAL ASSOCIATION OF RAILROAD AND UTILI-

TIES COMMISSIONERS.—Ben Smart, 7413 New

Post Office Bldg., Washington, D. C.

NATIONAL RAILWAY APPLIANCES ASSOCIATION.—

C. H. White, Room 1826, 208 S. La Salle

St., Chicago, Ill.

NEW ENGLAND RAILROAD CLUB.—W. E. Cade,

Jr., 683 Atlantic Ave., Boston, Mass.

Regular meetings, second Tuesday of each month,

except June, July, August and September,

Hotel Vendome, Boston, Mass.

NEW YORK RAILROAD CLUB.—D. W. Pye, 30

Church St., New York 7, N. Y. Regular

meetings, third Thursday of each month, ex-

cept June, July, August, September and De-

cember, 29 W. 39th St., New York, N. Y.

PACIFIC RAILWAY CLUB.—William S. Wollner,

P. O. Box A, Sausalito, Cal. Regular meet-

ings, second Thursday of each alternate

month, at Palace Hotel, San Francisco, Cal.,

and Hotel Hayward, Los Angeles, Cal.

RAILWAY BUSINESS ASSOCIATION.—P. H. Middle-

ton, First National Bank Bldg., Chicago, Ill.

RAILWAY CLUB OF PITTSBURGH.—J. D. Conway,

308 Keenan Bldg., Pittsburgh, Pa. Regular

meetings, fourth Thursday of each month,

except June, July and August, Fort Pitt

Hotel, Pittsburgh, Pa.

RAILWAY ELECTRIC SUPPLY MANUFACTURERS'

ASSOCIATION.—J. McC. Price, Allen-Bradley

Company, 624 W. Adams St., Chicago, Ill.

RAILWAY FUEL AND TRAVELING ENGINEERS' ASSOCIA-

TION.—T. Duff Smith, Room 811, Utilities

Bldg., 327 S. La Salle St., Chicago, Ill.

RAILWAY SUPPLY MANUFACTURERS' ASSOCIATION.—

J. D. Conway, 308 Keenan Bldg., Pitts-

burgh, Pa.

RAILWAY TELEGRAPH AND TELEPHONE APPLIANCE

ASSOCIATION.—G. A. Nelson, Waterbury Bat-

tery Company, 30 Church St., New York 7,

N. Y. Meets with Telegraph and Telephone

Section of A. A. R.

RAILWAY TIE ASSOCIATION.—Roy M. Edmonds,

610 Shell Bldg., St. Louis 3, Mo. Annual

meeting, May 16-17, 1944, Netherland Plaza

Hotel, Cincinnati, O.

ROADMASTERS' AND MAINTENANCE OF WAY ASSOCIA-

TION.—Miss Elinor Heffern, Room 822,

310 S. Michigan Ave., Chicago, Ill.

SIGNAL APPLIANCE ASSOCIATION.—G. A. Nelson,

Waterbury Battery Company, 30 Church St.,

New York 7, N. Y. Meets with A. A. R.

Signal Section.

SOUTHERN AND SOUTHWESTERN RAILWAY CLUB.—

A. T. Miller, 4 Hunter St., S. E., Atlanta,

Ga. Regular meetings, third Thursday in

January, March, May, July, September and

November, Ansley Hotel, Atlanta, Ga.

SOUTHERN ASSOCIATION OF CAR SERVICE OFFICERS.—

D. W. Brantley, C. of Ga. Ry., Savannah,

Ga.

TORONTO RAILWAY CLUB.—D. M. George, P. O.

Box 8, Terminal "A", Toronto, Ont. Regu-

lar meetings, fourth Monday of each month,

except June, July and August, Royal York

Hotel, Toronto, Ont.

TRACK SUPPLY ASSOCIATION.—Lewis Thomas, Q.

and C. Company, 59 E. Van Buren St.,

Chicago, Ill.

UNITED ASSOCIATIONS OF RAILROAD VETERANS.—

Roy E. Collins, 112 Hatfield Place, Port

Richmond, Staten Island, N. Y.

WESTERN RAILWAY CLUB.—E. E. Thulin (Execu-

tive Secretary), Suite 339, Hotel Sherman,

Chicago, Ill. Regular meetings, third Mon-

day of each month, except January, June,

July, August and September, Hotel Sherman,

Chicago, Ill.

Abandonments

MIDLAND VALLEY.—Division 4 of the Interstate Commerce Commission has authorized this road to abandon a branch from Hartford Junction, Ark., to Excelsior, 16.7 miles.

PENNSYLVANIA.—Division 4 of the Interstate Commerce Commission has approved the application of this road for authority to abandon operation of, and of the Pittsburgh, Cincinnati, Chicago & St. Louis to abandon, a segment of a branch extending 0.67 miles southwest from Gladden, Pa., and a branch from Cecil, Pa., to Bishop, 1.1 miles.

PACIFIC COAST.—Division 4 of the Interstate Commerce Commission has granted this road's petition to reconsider its application for authority to abandon its line from Maple Valley, Wash., to Taylor, 8.7 miles.

Supply Trade

C. V. Topliffe, representative of Cutler-Hammer, Inc., Milwaukee, Wis., with headquarters at Boston, Mass., has been promoted to manager of the Boston dis-



C. V. Topliffe

trict office. W. E. Addicks, of the Boston office has been moved to New York as district manager. Mr. Topliffe entered the employ of Cutler-Hammer at Milwaukee in 1924 upon graduation from Cornell University. Later he was transferred to the sales department at Boston.

J. D. Brandon has been named vice-president in charge of sales of the American Arch Company, with offices in New York and Chicago. Mr. Brandon began his career with the New York Central in 1906, serving his apprenticeship at the railroad's Beech Grove, Ind., shops. He was foreman and general foreman of the Urbana, Ill., roundhouse of the Peoria &



J. D. Brandon

Eastern from 1912 to 1915 and general foreman of the American Brake Shoe & Foundry Co. from 1915 to 1919. He joined the American Arch Company in 1919, leaving in 1924 to become associated with the Pittsburgh Steel Products Company. In 1927 he

rejoined American Arch as assistant to the executive vice-president and finally vice-president.

James B. Rosser, sales agent of the Pullman-Standard Car Manufacturing Company, Chicago, has been promoted to administrative assistant, reporting directly to the president.

Robert B. McColl, vice-president in charge of manufacturing of the American Locomotive Company, has been elected a director of the company.

The Allegheny Ludlum Steel Corporation, Brackenridge, Pa., has announced the acquisition of the Carbide Alloy Corporation of New York, which will be operated as Allegheny Ludlum's Carbide division.

Joseph B. Terbell has been appointed first vice-president of the American Manganese Steel division of the American Brake Shoe Company. Mr. Terbell was graduated from the Sheffield Scientific School of Yale University in 1928, and joined the American Manganese Steel di-



Joseph B. Terbell

vision in October of that year. After serving an apprenticeship of about two years in the company's Chicago Heights plant, he entered the Chicago sales office. He was transferred to the Ramapo-Ajax division in 1931, and to the American Manganese Steel division's New York office in 1932. He moved to St. Louis, Mo., as assistant manager of the alloy department in 1933, and to the sales department in Chicago in 1935. He was transferred to the American Forge division in 1936, returning to Amsco in 1937 as eastern sales manager in the New York office. Mr. Terbell was appointed a vice-president of the American Manganese Steel division in 1940.

The Link-Belt Company's Caldwell plant in Chicago was awarded the Army-Navy "E" for excellence in production of vital war material on October 7.

The Fitzgibbons Boiler Company is converting its plant at Oswego, N. Y., to the production of boilers for locomotives. The plant was presented the Army-Navy "E" award on October 29. For nearly two years it has produced hulls for the "Gen-

eral Sherman" medium tank, material for naval vessels and equipment used by arsenals in the manufacture of high explosives. Colonel Frank J. Atwood, chief of the Rochester, N. Y., ordnance district, disclosed that the changing requirements of war made possible the conversion to the production of boilers for locomotives. He reminded those who may think such products comparatively unexciting that American and British pilots hunt enemy locomotives over the occupied lands of Europe and said that the Army's need for such equipment tended to increase as it advanced over devastated areas.

J. B. MacKenzie, formerly development engineer, has been appointed mechanical engineer, and E. F. Seibel, formerly chief draftsman, has been appointed assistant mechanical engineer of the Standard Stoker Company, with headquarters at Erie, Pa.

George W. Fox, formerly secretary, has been elected president of the Davis Brake Beam Company, Johnstown, Pa. David E. Shannon has been elected vice-president of the company and O. G. Custer, assistant secretary.

The Oakes Products division of the Houdaille - Hershey Corporation has been awarded the war production citation by the Ordnance Department industrial integration committee for tank tracks, in recognition of work performed during a critical period in the production of tank tracks, from August 3, 1942, to March 31, 1943.

L. F. McGlinchy, general superintendent of the Donora, Pa., steel & wire works of the American Steel & Wire Company, subsidiary of the United States Steel Corporation, has been appointed assistant manager of operations, Pittsburgh, Pa., district. Loren J. Westhaver, assistant general superintendent at Donora, has been appointed general superintendent to succeed Mr. McGlinchy.

Ceremonies were held at the Dunkirk, N. Y., plant of the American Locomotive Company on October 20 marking the completion of the final 155-mm. gun carriage on the current contract. The Dunkirk plant gun shop is now turning its men and machines to locomotive parts production for United States War Department locomotives and to expanding the production of Alco Products equipment needed for the high octane gas and synthetic rubber programs. In addition to the 155-mm. gun carriages, the plant has also produced 105-mm. and 155-howitzer carriages.

Edward J. Burnell, formerly vice-president and general manager in charge of operations of the Link-Belt Company's Pershing Road plant and central division sales in Chicago, has been transferred to the executive offices in Chicago as vice-president in charge of sales. Harold L. Hoefman, manager of the company's Atlanta, Ga., plant, will succeed Mr. Burnell as general manager of the Pershing Road plant, and Richard B. Holmes, district manager at Indianapolis, Ind., has been ap-

pointed manager of the Atlanta plant to succeed Mr. Hoefman. **David E. David****son**, district engineer at the company's Detroit, Mich., office, has been named district manager at Indianapolis.

Lawrence S. Sheldrick, formerly chief engineer of the Ford Motor Company, has been appointed assistant to R. K. Evans, vice-president and group executive in charge of the general engines group of **General Motors Corporation**, including the Allison, Electro-Motive, Cleveland-Diesel and Detroit-Diesel divisions. Mr. Sheldrick was born in Columbus, Ohio, in 1892 and gained his early experience with the Hudson Motor Company, the Continental Motors Corporation and the Timken Detroit Axle Company. During World War I, he was a lieutenant in the Ordnance department of the Army and in 1922, he joined the Lincoln Motor Company. When, a few months later, this company was taken over by the Ford Company, Mr. Sheldrick became a member of the Ford organization.

OBITUARY

Peter J. Hickey, vice-president and sales manager of the Pantasote Company, New York, died October 14.

Charles Wescott Gennet, Jr., vice-president of the Sperry Rail Service, whose death on October 26 was reported in the



Charles Wescott Gennet, Jr.

Railway Age of October 30, was born at Binghamton, N. Y., on August 1, 1876, and was graduated in mechanical engineering from Cornell University in 1898. Immediately after leaving school he entered the employ of the Baldwin Locomotive Works and a year later he entered the testing department of the Southern at Alexandria, Va., where he remained until 1907. He then went with the Robert W. Hunt Company, Chicago, as manager of the St. Louis (Mo.) office and was promoted to manager of the rail department with headquarters in Chicago, in 1909. In January, 1928, he resigned to become vice-president, with headquarters at Chicago, of the newly organized Sperry Rail Service Company, Hoboken, N. J., (now Sperry Rail Service). Since that time Mr. Gennet has been closely associated with the development of equipment for the detection of defective rails.

Equipment and Supplies

Composite-Type Car Program May Be Abandoned

The requirements committee of the War Production Board is understood to be giving serious consideration to a recommendation of the Office of Defense Transportation that allocations for the construction of composite-type cars be discontinued in favor of a smaller number of all-steel cars requiring an equivalent tonnage of steel. While it is estimated that, in general, ten cars of the composite type can be built with the steel required for nine all-steel cars, it also has been pointed out that the cubic capacity of the composite type is less, due to the space taken up by the wood used in its construction, while other considerations, such as additional maintenance required for the composite cars, also tend to balance the immediate saving in steel.

Another factor in the situation is the determined opposition with which most railroads are reported to have met the WPB's composite car program, which has been expressed, it is said, in tardiness or refusal to place orders for cars of this construction in the face of the increasingly critical equipment situation. The ODT has had under consideration, according to these reports, at least two plans for government financing of the 1943 car building program, in order that manufacturing capacity may be fully utilized to the extent that WPB allocations permit.

One proposal for government financing would employ the resources of the Defense Supplies Corporation to keep car building plants in operation. As fast as railway orders were received, the cars so produced would be turned over to them and the government agency would be repaid. Under another proposal a subsidiary of the Reconstruction Finance Corporation would be set up to own the cars built under this program, which then would be leased to various railroads. However, further consideration of such proposals automatically would be obviated by a decision to abandon the composite-type car, it was explained, since it is expected that railroads will not delay in ordering all-steel cars up to the total made available by WPB allocations, particularly in view of their reported opposition to government financing of equipment purchases of any kind.

So far, tentative allocations out of 1943 steel tonnage, as passed by the WPB, are said to total about 21,250 composite-type cars, of which 10,122 would be produced from the first quarter quota. It is not expected that this first part of the program would be greatly disturbed in the event that the WPB should abandon the composite car, but opportunity to substitute all-steel cars for the second and third quarter tentative allocations of the composite type would still be available.

THE INTERSTATE COMMERCE COMMISSION has authorized the construction of 50 additional riveted tanks of tank cars, conform-

ing to I. C. C. shipping specification 103A, except that toncan iron plates may be substituted for open-hearth boiler plate steel of flange quality, the cars to be used in service tests in the transportation of sulfuric acid. The authorization came in an October 27 order in No. 3666, the commission acting favorably on the application of the Mechanical Division, Association of American Railroads, for modification of a previous order of August 6, 1941, which had authorized the construction of 25 similar tanks.

LOCOMOTIVES

THE CANADIAN NATIONAL has ordered 10 Diesel-electric switching locomotives for service in the United States from the American Locomotive Company. The road also has 20 mountain-type steam locomotives for service in Canada on order with the Montreal Locomotive Works.

FREIGHT CARS

Canadian National Orders 4,700 New Freight Cars

The Canadian National has placed orders for 4,700 new freight cars of which 4,200 are for use on Canadian Lines, including 3,050 box, 750 70-ton hopper, 200 flat, and 200 refrigerator cars, and 500 for service in the United States, including 200 automobile and 300 70-ton gondola cars. The orders were allocated as follows:

| No. | Type | Builder |
|-------|--------------|------------------------|
| 1,450 | Bcx | Canadian Car & Foundry |
| 1,350 | Box | National Steel Car |
| 250 | Box | Eastern Steel Car |
| 750 | Hopper | Eastern Steel Car |
| 200 | Flat | Canadian Car & Foundry |
| 200 | Refrigerator | Company Shops |
| 200 | Automobile | Pressed Steel Car |
| 300 | Gondola | Pressed Steel Car |

The READING'S directors have authorized the expenditure of \$8,500,000 for the construction and purchase of new equipment, including 1,000 hopper cars, 1,000 gondola cars and 50 cabooses to be built in the company's own shops at Reading, Pa., and five Diesel-electric freight locomotives of 5,400 hp. each to be purchased from the Electro-Motive Corporation. Construction of 1,000 hopper cars, previously authorized, will begin in the Reading shops during December, making a total of new work amounting to approximately \$11,000,000.

SIGNALING

THE UNION SWITCH & SIGNAL COMPANY is furnishing ten sets of intermittent inductive train stop equipment for installation on 2-8-4 type K-4 steam locomotives which are being built by the American Locomotive Company for the Chesapeake & Ohio. This equipment will be operated in territory now equipped with the intermittent inductive automatic train stop system.

THE UNION SWITCH & SIGNAL COMPANY has received an order for 15 sets of intermittent inductive automatic train stop equipment to be applied to 15 "S" class locomotives which are being built by the Lima Locomotive Works for the New York, Chicago & St. Louis. This automatic train stop equipment is similar to that now in service on the Nickel Plate, and will be installed on locomotives operating in the Fort Wayne, Ind., to Chicago territory.



In a few months of this staggering wartime traffic, Inspector Mars brings out facts about locomotives that might well have lain hidden through years of peacetime service. He brings out the bad . . . and he brings out the good, too.

He brings out the extra stamina and the greater mileage resulting from Lima's insistence upon the highest standards of design,

workmanship, and materials. He brings out the greater availability that flows from Lima's unremitting care and attention to the closest possible approach to perfection in every last detail. And—perhaps most convincingly of all—he brings out the outstanding economic superiority of Lima-built Modern Super-Power Steam Locomotives, and their essential place in our system of transport.

LIMA LOCOMOTIVE WORKS



INCORPORATED, LIMA, OHIO

Financial

CENTRAL OF GEORGIA.—Equipment Notes.—This road has applied to the Interstate Commerce Commission for authority to issue \$1,301,400 of notes in evidence of deferred payments on the purchase of certain equipment under conditional sales contracts. The total cost of the equipment was stated as \$2,169,000, of which the road expects to pay approximately 40 per cent when the equipment is accepted from the builders. The issue will apply to the purchase of 250 composite-type box cars from the Pullman-Standard Car Manufacturing Co. at a cost of \$912,500; 100 composite-type box cars from the American Car & Foundry Co. at a cost of \$365,000; 165 pulpwood flat cars from the Greenville Steel Car Co. at a cost \$577,000; one 1,000-h.p. diesel-electric switching locomotive from the Baldwin Locomotive Works at \$78,500; and 3 1,000-h.p. diesel-electric switching locomotives from the American Locomotive Works at a total cost of \$235,000.

CENTRAL OF NEW JERSEY.—Assessment Affirmed.—On October 28, the New Jersey state board of tax appeals affirmed the 1943 property assessment of the Central of New Jersey at \$78,187,344.

ILLINOIS CENTRAL.—Refinancing.—To provide funds to enable this road to pay indebtedness to the Reconstruction Finance Corporation in the amount of \$15,000,000, on which the interest rate is 4 per cent, this road has obtained the approval of Division 4 of the Interstate Commerce Commission of its application for authority to assume liability for \$15,000,000 of 2½ per cent equipment trust certificates, series W, sold at 98.3373 to Halsey, Stuart & Co., on which basis the average annual cost will be 2.94 per cent. One thousand 50-ton hopper cars covered by the road's series Q equipment trust will be included, along with other equipment, under the new agreement, and provision is made for the release of that equipment by appropriate payments on the series Q trust.

In approving the application, the division pointed out that the total debt reduction this road expects to have accomplished during the year 1943 will amount to about \$36,000,000, or more than 10 per cent of the indebtedness outstanding at the beginning of this year.

NEW YORK CENTRAL.—New York & Harlem Refinancing.—The New York Central has made effective, as of November 1, its offer to the minority stockholders of the New York & Harlem, which involves the exchange of the new 100-year non-callable 4 per cent mortgage bonds of the Harlem for the minority stock of that company on the basis of \$125 principal amount of new bonds for each share of minority stock (\$50 par value) so exchanged. Of the 62,560 shares of minority stock outstanding, in excess of 45,000 shares either have been deposited under the offer or have assented to it. The offer is to be kept open by the Central until December 31.

NEW YORK, NEW HAVEN & HARTFORD.—Stock Purchase Petition.—The United States district court at New Haven, Conn., has reserved decision on the New Haven's petition for authority to purchase 24,150 shares of Boston Railroad Company preferred stock. Opposition was expressed by the Port Authority of Boston, the Department of Justice, the Old Colony stockholders protective committee, the New York Central and the Delaware & Hudson.

PENNSYLVANIA.—Refinancing by Subsidiary.—This company and the Philadelphia, Baltimore & Washington, lessor, have been authorized by Division 4 of the Interstate Commerce Commission to assume liability for and to issue, respectively, \$12,929,000 of general mortgage 3 per cent bonds, series E, to be purchased at par by the Equitable Life Assurance Society. The proceeds will be used to retire a like amount of general mortgage 4½ per cent bonds, series D. In addition to average annual savings of \$232,500 to result from lower charges, a 1943 income tax reduction of \$840,000 is expected to result from the transaction.

SEABOARD AIR LINE.—Reorganization Hearings.—At hearings before the United States district court at Baltimore, Md., attorneys for the receivers testified that the railroad owed \$15,000,000 in interest which had accrued on back interest on its securities for the years 1940-1942. The accrual of interest was used as a federal income tax deduction for 1942 and the attorneys, while claiming the deduction legal, told the court that there would be a difference of about \$12,000,000 in taxes for 1942 and 1943 if the government refused to allow the claim.

ST. LOUIS SOUTHWESTERN.—Trackage Rights.—This road has applied to the Interstate Commerce Commission for authority to enter into an agreement for operation under trackage rights on the second of two tracks of the Vicksburg, Shreveport & Pacific for 1.22 miles within the corporate limits of Shreveport, La.

SOUTHERN PACIFIC.—New Directors Elected.—John G. Walsh, vice-president in charge of finances of the Southern Pacific, has been elected a director, succeeding Charles E. Perkins, deceased, and D. J. Russell, vice-president, has been elected a director, replacing W. F. Bull, who has resigned.

Average Prices Stocks and Bonds

| | Nov. 3 | Last week | Last year |
|---|--------|-----------|-----------|
| Average price of 20 representative railway stocks.. | 37.03 | 37.74 | 30.26 |
| Average price of 20 representative railway bonds.. | 79.35 | 80.33 | 68.87 |

Dividends Declared

Great Northern.—Preferred, \$1, payable December 13 to holders of record November 22.
Nashville, Chattanooga & St. Louis.—\$2, payable December 1 to holders of record November 12.
Norfolk & Western.—\$2.50, quarterly, payable December 10 to holders of record November 22.
Richmond, Fredericksburg & Potomac.—6% guaranteed preferred semi-annually, \$3, payable November 1 to holders of record October 31.
Southern.—5% non-cum. preferred, \$1.25, payable December 15 to holders of record November 15.

Construction

CANADIAN NATIONAL.—A contract has been awarded W. C. Wells, Wilkie, Sask., for the reconstruction of a 10-stall roundhouse and machine shop at Calgary, Alta. The stalls are 90 ft. long and the machine shop is 38 ft. by 85 ft. The reconstruction work consists of replacing the old frame walls with new frame walls, and replacing the roof with a laminated type roof deck covered with a 5-ply built-up tar and gravel roof.

NEW YORK CENTRAL.—W. J. Meagher & Sons, Bay City, Mich., has submitted a low bid, amounting to approximately \$693,400, to the Michigan State Highway Department for the construction of a two-span grade separation bridge carrying eight railway tracks over the Detroit Industrial Expressway at Dearborn, Mich., at an angle of 48 deg. 22 min. Each span will be 75 ft. 9 in. long and will be supported on gravity-type concrete abutments and a column and girder type concrete pier, resting on cast-in-place concrete piles. The contract for the work will include the construction and removal of run-around tracks; and the removal, reconstruction and alteration of existing tracks at the location of the bridge. All track material, ties and ballast will be furnished by the railroad.

SOUTHERN PACIFIC.—A general contract has been awarded Robert E. McKee, El Paso, Tex., for the construction of a new locomotive-erecting shop at Sparks, Nev. The new structure, which will be 253 ft. long, 80 ft. wide and 57 ft. high, will have a frame of steel salvaged from another building recently retired and walls of corrugated asbestos transite, protected by a brick veneer on the inside up to the height of the window sills. The windows will have steel sash and the roof will be of built-up asbestos felt on wood sheathing.

The building will be located adjacent to a machine shop with one wall common to both buildings. It will be equipped with 12 cross tracks and engine pits served by the existing transfer table. Steam heating will be provided by projection-type high-pressure units set between the roof trusses. Four electric transformers will be installed for various voltages for the shop equipment and the shop will be completely piped for high and low pressure water, steam and compressed air.

WAR DEPARTMENT.—The U. S. Engineer office, Kansas City, Mo., has awarded a contract, amounting to about \$80,000, to McGinnis & Grawe, Dallas, Tex., for the construction of a railroad track, for concrete pipe, and for excavation work in Kansas. The U. S. Engineer office, San Francisco, Cal., has awarded a contract, amounting to \$20,000, to the Granite Construction Company, Watsonville, Cal., for the construction of a spur track, crossover, and loading platform in California. The U. S. Engineer office, Mobile, Ala., has awarded a contract, amounting to about \$50,000, to Royce Kershaw & Co., Montgomery, Ala., for the construction of a railroad track in Florida.

Railway Officers

EXECUTIVE

Charles B. Bryant, engineer of tests of the Southern, whose promotion to the newly created position of assistant to the vice-president in charge of research and tests, with headquarters at Washington, D. C., was announced in the *Railway Age* of October 23, assumed the duties of his new position on November 1. Mr. Bryant was born on November 1, 1900, at Washington. In 1922 he received his B.S. degree in engineering at the School of Engineering, Johns Hopkins University, Baltimore, Md. After a career which included eight years as a field engineer of the Portland Cement Association and six years as materials engineer of the Maryland State Road Commission, he entered railroad service on November 16, 1936, as engineer of tests of the Southern, with



Charles B. Bryant

headquarters at Alexandria, Va. This position he held until his recent appointment as assistant to the vice-president in charge of research and tests, at Washington.

FINANCIAL, LEGAL AND ACCOUNTING

M. J. Murphy has been appointed general auditor of the New York, Susquehanna & Western, with headquarters at Paterson, N. J., succeeding D. S. Treat, who has retired at his own request.

J. C. Putt and Robert M. Clark, attorneys of the Atchison, Topeka & Santa Fe for Kansas, have been promoted to solicitors for Kansas, with headquarters at Topeka, Kan., succeeding Bruce Hurd, whose death on October 4 is reported elsewhere in these columns.

Gustave H. Howe, assistant treasurer of the New York Central with headquarters at New York, has been appointed treasurer of that company, succeeding Rudolph P. Ahrens, who retired from that position on

October 31 in accordance with pension regulations. Edward Coles, Henry A. Dahmer, and Ray F. Hoppenstadt have all been appointed assistant treasurers. Mr. Howe was born on June 8, 1884, at New York, and entered railroad service on April



Gustave H. Howe

23, 1901, in the accounting department of the New York Central. On June 1, 1907, he became a clerk in the treasury department. He then served respectively as assistant cashier and chief clerk in that department, being appointed assistant treasurer on November 1, 1929. On July 1, 1932, Mr. Howe became assistant treasurer of the New York Central System, serving in that capacity until his recent appointment as treasurer with headquarters at New York.

Mr. Ahrens entered the service of the Indiana, Illinois & Iowa (now New York Central) on October 1, 1889, at Chicago. In June, 1896, he became assistant treasurer, and in July, 1898, was appointed secretary and treasurer. In April, 1903, he was also appointed local treasurer and assistant secretary of the Lake Shore & Michigan Southern (now New York Central) and other companies, with headquarters at Cleveland, Ohio. Following the consolidations



Rudolph P. Ahrens

of various companies forming the New York Central Railroad Company, he was appointed, in January, 1915, assistant treasurer of that and various other companies.

In January, 1918, under the United States Railroad Administration—the New York

Central Lines, he became assistant to federal treasurer. In March, 1920, following federal administration, Mr. Ahrens was appointed assistant treasurer of the New York Central and affiliated companies. In July, 1932, when the treasury department officers located at Cleveland, Detroit, Mich.; and Cincinnati, Ohio, were consolidated with the New York office, he was appointed assistant treasurer of the several companies comprising the New York Central system, at New York. This position he held until his recent retirement.

J. B. Donnelly, auditor of disbursements of the Minneapolis, St. Paul & Sault Ste. Marie, and of the Duluth, South Shore & Atlantic, has been promoted to comptroller of both roads, with headquarters as before at Minneapolis, Minn., succeeding A. E. Hancock, who has retired at his own request after 32 years of service. J. R. Chapman, assistant comptroller of the two roads, has been advanced to general auditor, with headquarters as before at Minneapolis.

William J. Holden, assistant chief claim agent of the New York Central at Cleveland, Ohio, has been promoted to chief claim agent, with headquarters at Detroit, Mich., succeeding Harry G. Whiteman, who has been transferred to Cleveland, replacing Frank A. Hruska, chief claim agent who has retired after more than 50 years service. Harry A. Fathauer, assistant chief claim agent at Chicago, has been advanced to chief claim agent, with the same headquarters, a newly-created position.

OPERATING

H. H. Fitzsimmons has been appointed assistant superintendent of the Medicine Hat division of the Canadian Pacific, succeeding A. E. Hartley, who has been transferred to the Lethbridge division.

H. J. Slavin has been appointed trainmaster of the Buffalo division of the New York Central. Emil Moore has been named assistant trainmaster of the Hudson and Mohawk divisions of that road with headquarters at Albany, N. Y.

W. L. Fagley, telegraph and telephone supervisor of the Southern Pacific Lines in Texas and Louisiana, has been promoted to assistant superintendent of telegraph and telephone, with headquarters as before at Houston, Tex.

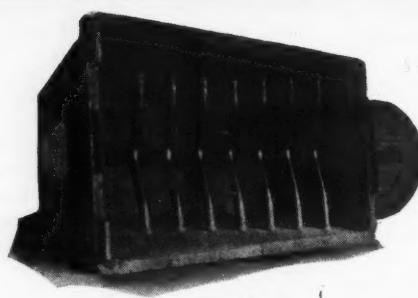
R. M. Stone has been appointed superintendent of the Virginia division of the Seaboard Air Line with headquarters at Raleigh, N. C. He succeeds C. A. McRee, who has been furloughed to serve with the 722nd Railway Battalion, United States Army.

C. O. Dexter, terminal trainmaster of the Delaware, Lackawanna & Western at Hoboken, N. J., has been transferred to Buffalo, N. Y., succeeding L. H. Black, who has been transferred to Port Morris, N. J., as trainmaster. Mr. Dexter will be succeeded at Hoboken by W. G. Dorsey, trainmaster at Port Morris.

W. E. Heimerdinger, superintendent of the Cedar Rapids division of the Chicago,

SECURITY CIRCULATORS

*for
increased
locomotive availability*

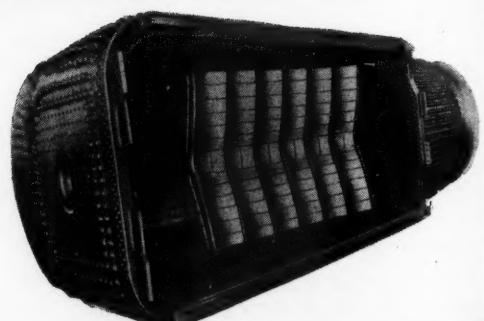


FOR INCREASED AVAILABILITY

FOR BETTER ARCH BRICK SUPPORT



FOR POSITIVE FLOW OF WATER OVER CENTER OF CROWN SHEET

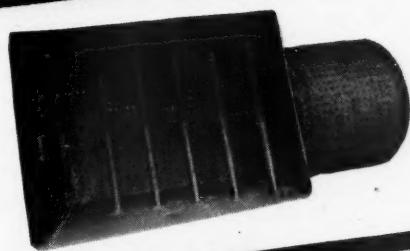




FOR REDUCED HONEYCOMBING



FOR REDUCED FLUE PLUGGING



FOR REDUCED CINDER CUTTING

AMERICAN ARCH COMPANY INC.

60 EAST 42nd STREET
NEW YORK 17, N. Y.

Security Circulator Division

Rock Island & Pacific, has been transferred to the Oklahoma division, with headquarters at El Reno, Okla., succeeding **C. C. Fertig**, who has been transferred to the Southern division, with headquarters at Fort Worth, Tex. Mr. Fertig replaces **F. L. Campion**, who has been transferred to the Cedar Rapids division, succeeding Mr. Heimerdinger.

J. W. Graves, superintendent of the Marion division of the Erie who was granted leave of absence in March, 1941, to serve as general superintendent of transportation of the U. S. government ordnance plant at Ravenna, Ohio, has returned to the Erie as superintendent of the Allegany, Bradford, Meadville and Buffalo and Southwestern divisions, with headquarters at Salamanca, N. Y., succeeding **C. K. Scott**, whose promotion to acting engineer maintenance of way, Eastern district, is reported elsewhere in these columns.

TRAFFIC

Patrick H. McWhorter has been appointed division freight agent of the Southern at Knoxville, Tenn., succeeding **Howard Cook**, who has been transferred to Greenville, S. C.

ENGINEERING & SIGNALING

J. C. Nichols, bridge inspector of the Louisville & Nashville at Louisville, Ky., has been promoted to assistant bridge engineer, system, with the same headquarters. **G. H. Beasley**, division engineer at Ravenna, Ky., has been advanced to assistant engineer in the chief engineer's office, with headquarters at Louisville.

D. Hillman has retired, after 42 years in the service of the Canadian Pacific, from his position as district engineer of the Quebec district. **J. A. Irvine** has been appointed Quebec district engineer to succeed Mr. Hillman. **J. H. Reeder**, general tie and lumber agent with headquarters at Montreal, Que., has been appointed assistant district engineer, Quebec district, to fill the vacancy left by the promotion of Mr. Irvine.

J. A. Irvine, assistant district engineer of the Quebec district of the Canadian Pacific, has been promoted to district engineer, with headquarters as before at Montreal, Que., succeeding **D. Hillman**, who has retired. **J. H. Reeder**, general tie and lumber agent, has been advanced to assistant district engineer of the Quebec district, with headquarters as before at Montreal, replacing Mr. Irvine.

E. H. McGovern, assistant district engineer on the New York Central, has been promoted to district engineer, with headquarters as before at Cincinnati, Ohio, succeeding **Paul Hamilton**, who has retired effective November 1. **G. T. Donahue**, division engineer at Chicago, has been advanced to assistant district engineer at Cleveland, Ohio, replacing **E. J. Bayer**, who has been transferred to Cincinnati, succeeding Mr. McGovern. **A. A. Keever**,

assistant engineer in the district engineer's office at Cleveland, has been promoted to division engineer at Mattoon, Ill., relieving **J. R. Scofield**, who has been transferred to Chicago, replacing Mr. Donahue, and **Max Nearing**, track supervisor at Jackson, Mich., has been advanced to assistant engineer in the office of the district engineer at Cleveland, succeeding Mr. Keever.

I. H. Schram, engineer maintenance of way of the Eastern district of the Erie, with headquarters at Jersey City, N. J., has been appointed acting chief engineer maintenance of way of the system, with headquarters at Cleveland, Ohio, in place of **J. C. Patterson**, who has been granted a leave of absence, effective November 1. **C. K. Scott**, superintendent at Salamanca, N. Y., has been appointed acting engineer maintenance of way of the Eastern district at Jersey City, to succeed Mr. Schram.

Neil D. Hyde, whose promotion to assistant to the chief engineer of the New York Central System, West of Buffalo, with headquarters at Chicago was reported in the *Railway Age* of October 23, was born at Afton, N. Y., and is a graduate of



Neil D. Hyde

Union College. He entered railway service in September, 1912, as a rodman on the New York Central at Utica, N. Y., and in June, 1917, he became an engineer in the New York State engineer's department. In August of the same year he was appointed a lieutenant of engineers in the U. S. Army and served 12 months overseas with the A. E. F. In March, 1919, Mr. Hyde returned to the New York State engineer's department, and in May, 1922, he became an assistant engineer on the New York Central. In November, 1935, he was promoted to special engineer in the office of the vice-president, with headquarters at Chicago, and three years later he was advanced to special engineer in the office of the chief engineer, West of Buffalo, holding that position until his new appointment, effective October 1.

MECHANICAL

J. W. Hawthorne has been appointed assistant superintendent of motive power of

the Central of Georgia, with headquarters at Savannah, Ga.

John R. Finnerty, road foreman of engines of the Scranton division, Delaware, Lackawanna & Western, has been promoted to rules examiner with headquarters at Scranton, Pa.

Guy M. Gray, superintendent of motive power of the Bessemer & Lake Erie with headquarters at Pittsburgh, Pa., has resigned from this position after more than 47 years of service with the company. **Edwin F. Richardson**, assistant superintendent of motive power, has been appointed superintendent of motive power succeeding Mr. Gray.

PURCHASES AND STORES

E. C. Enste has been named lumber agent of the Baltimore & Ohio with headquarters at Baltimore, Md., succeeding the late S. M. Elder.

Howard Crouse, general storekeeper of the Texas & Pacific at Marshall, Tex., has been promoted to purchasing agent, with headquarters at Dallas, Tex., succeeding **F. S. McClung**, whose death on October 20 is reported elsewhere in these columns.

SPECIAL

William E. Brennan, a member of the publicity staff of the Chicago, Rock Island & Pacific, has been promoted to publicity manager, with headquarters as before at Chicago.

OBITUARY

Bruce Hurd, solicitor of the Atchison, Topeka & Santa Fe for Kansas, with headquarters at Topeka, Kan., died in a hospital at Rochester, Minn., on October 4.

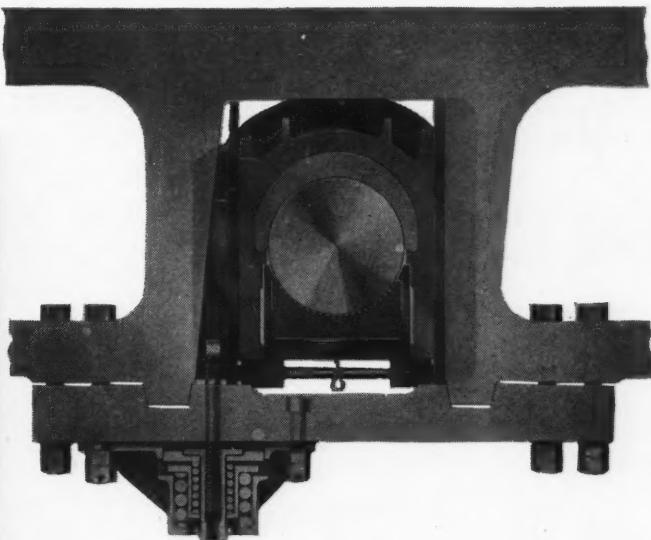
Remus F. Atwood, who retired in 1939 as general agent of the Chicago, Rock Island & Pacific, with headquarters at Kansas City, Mo., died recently at Miami, Fla.

John C. McClure, who retired in 1925 as assistant to the president of the Southern Pacific in Mexico, with headquarters at Tucson, Ariz., died recently at his home in Altadena, Cal.

Lewis J. Fredley, superintendent of the Southern district of the Pacific Fruit Express Company, died recently in the Southern Pacific hospital, Houston, Tex., following an illness of several weeks.

F. S. McClung, purchasing agent of the Texas & Pacific, with headquarters at Dallas, Tex., died on October 20, after an illness of three months. Mr. McClung was born at Knoxville, Tenn., on November 21, 1890, and entered railway service in October, 1908, as a storekeeper on the Illinois Central at Louisville, Ky. He entered the service of the Texas & Pacific in 1910 in the stores department and in 1921, was promoted to general storekeeper. In March, 1924, he was promoted to the position he held at the time of his death.

Save Manpower
 INCREASE LOCOMOTIVE SERVICE
 USE THE
**FRANKLIN AUTOMATIC
 COMPENSATOR
 and SNUBBER**



This important Franklin device releases manpower and increases the availability of your locomotives. Instead of calling for the services of scarce and more needed skilled maintenance men, it compensates automatically and continuously for all alterations caused by driving box temperature changes, and also dampens the stresses induced by reversal of forces.

By eliminating the air gap and by dampening stresses, the Franklin Automatic Compensator and Snubber greatly prolongs bearing life and increases locomotive mileage between shoppings. It has never been so important to keep every locomotive working to its utmost as it is today!



FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK

CHICAGO

In Canada: FRANKLIN RAILWAY SUPPLY COMPANY, LIMITED, MONTREAL

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1943

| Name of road | Av. mileage operated during period | | | Operating revenues | | | Maintenance of equipment | | | Operating expenses | | | Net from railway operation | Operating income | Net railway operating income |
|--|------------------------------------|-------------|-------------|--------------------|------------|------------|--------------------------|--------------|-----------------|--------------------|-----------------|------------|----------------------------|------------------|------------------------------|
| | Freight | Passenger | Total | Way | Structures | Traffic | Transportation | Total | Operating ratio | Total | Operating ratio | 1943 | 1942 | | |
| Akron, Canton & Youngstown | \$354,493 | \$209 | \$369,811 | \$54,629 | \$46,446 | \$1,470 | \$486,783 | \$21,321,338 | \$46,639 | \$21,321,783 | \$57.3 | \$154,028 | \$83,775 | \$83,775 | |
| Alton | 171 | 3,171,858 | 3,1407 | 3,312,916 | 289,637 | 153,990 | 866,124 | 1,913,838 | 57.3 | 1,398,520 | 912,067 | 769,205 | 441,294 | 441,294 | |
| Atlanta & West Point | 959 | 1,871,062 | 738,580 | 2,927,914 | 333,302 | 64,147 | 892,641 | 1,850,023 | 63.2 | 1,072,891 | 416,628 | 199,373 | 470,759 | 470,759 | |
| Atchison, Topeka & Santa Fe System | 13,148 | 26,834,685 | 9,135,685 | 38,740,853 | 5,575,133 | 6,487,801 | 615,002 | 11,910,350 | 50,736,063 | 6,264,318 | 65.2 | 4,261,994 | 9,144,779 | 9,144,779 | |
| Atlanta & West Point | 13,122 | 243,426,283 | 76,066,212 | 342,862,399 | 36,101,936 | 50,736,063 | 4,736,051 | 86,912,461 | 133,216,666 | 53.4 | 48,733,627 | 45,359,031 | 53,206,712 | 53,206,712 | |
| Atlanta, Birmingham & Coast | 93 | 2,370,051 | 1,220,829 | 3,932,305 | 412,042 | 429,985 | 487,734 | 10,980 | 142,371 | 1,261,818 | 62.5 | 57.215 | 35,509 | 74,553 | |
| Western of Alabama | 133 | 2,392,622 | 1,268,694 | 3,661,316 | 394,446 | 438,631 | 90,257 | 1,575,546 | 2,214,176 | 63.3 | 1,758,020 | 607,635 | 510,654 | 610,198 | |
| Atlanta, Birmingham & Coast | 639 | 4,454,146 | 486,617 | 5,286,386 | 67,086 | 85,310 | 25,112 | 202,541 | 399,445 | 75.6 | 120,923 | 55,587 | 35,561 | 78,991 | |
| Western of Alabama | 93 | 4,734,565 | 497,983 | 5,457,079 | 656,379 | 691,102 | 231,803 | 1,900,857 | 3,655,250 | 67.0 | 1,801,829 | 908,532 | 579,388 | 315,822 | |
| Atlantic Coast Line | 9,956 | 3,355,325 | 11,375,814 | 10,013,529 | 1,747,605 | 189,962 | 5,620,647 | 58.2 | 4,755,167 | 755,167 | 551,715 | 1,302,796 | 1,302,796 | | |
| Charleston & Western Carolina | 343 | 285,671 | 11,988 | 302,664 | 47,998 | 52,850 | 10,556 | 102,611 | 219,242 | 72.4 | 85,922 | 18,422 | 22,878 | 15,091,367 | |
| Baltimore & Ohio | 6,146 | 25,026,929 | 34,824,419 | 30,345,527 | 4,020,518 | 5,683,725 | 481,838 | 9,278,954 | 20,707,782 | 67.2 | 9,946,475 | 5,366,413 | 4,669,131 | 5,384,317 | |
| Baltimore & Ohio | 6,149 | 224,330,916 | 26,092,889 | 267,346,655 | 31,029,331 | 46,562,226 | 4,160,672 | 82,113,969 | 17,512,518 | 65.6 | 9,186,527 | 5,153,688 | 4,238,996 | 4,238,996 | |
| Baltimore & Ohio | 24 | 244,000 | 117,449 | 368,677 | 32,052 | 32,052 | 1,172 | 1,063,985 | 182,594 | 49.5 | 186,083 | 14,912,040 | 120,936 | 146,946 | |
| Baltimore & Ohio | 24 | 1,989,125 | 1,077,326 | 3,146,452 | 326,532 | 262,359 | 10,467 | 922,041 | 1,699,378 | 54.0 | 1,447,074 | 1,050,764 | 908,158 | 194,133 | |
| Bangor & Aroostook | 602 | 321,630 | 98,764 | 459,110 | 98,092 | 102,306 | 6,091 | 149,800 | 388,014 | 84.5 | 71,096 | 16,000 | 59,336 | 13,881 | |
| Bessemer & Lake Erie | 602 | 4,678,633 | 727,064 | 5,405,697 | 1,194,677 | 1,111,101 | 945,513 | 55,527 | 1,466,667 | 3,982,314 | 68.6 | 1,784,423 | 830,804 | 1,082,968 | 954,541 |
| Bessemer & Lake Erie | 214 | 2,271,292 | 17,718 | 2,288,442 | 1,356,155 | 154,739 | 73,568 | 146,026 | 537,105 | 1,289,039 | 56.4 | 998,423 | 365,703 | 507,283 | 369,716 |
| Boston & Maine | 1,820 | 5,190,342 | 1,530,370 | 7,352,831 | 1,207,435 | 1,108,254 | 81,416 | 2,660,407 | 5,294,113 | 72.0 | 2,058,718 | 1,199,584 | 942,114 | 1,232,330 | |
| Burlington, Rock Island | 228 | 447,576 | 613 | 565,025 | 65,165,072 | 184,052 | 26,257 | 14,769 | 2,771 | 57,655 | 44,137,973 | 61.9 | 20,361,085 | 12,059,668 | 9,637,407 |
| Burlington, Rock Island | 228 | 107,253 | 62,252 | 184,661 | 242,765 | 185,131 | 24,239 | 784,907 | 1,357,476 | 62.9 | 80,205 | 700,532 | 467,997 | 109,803 | |
| Cambria & Indiana | 35 | 166,389 | 1,104,505 | 1,405,092 | 1,202,052 | 1,020,600 | 629,143 | 4,439 | 18,737 | 97,525 | 58.5 | 69,029 | 12,961 | 86,825 | 59,030 |
| Canadian Pacific Lines in Maine | 234 | 414,845 | 113,064 | 559,218 | 51,469 | 51,469 | 6,295 | 16,024 | 1,020,416 | 986,416 | 418,676 | 267,555 | 390,682 | 612,225 | 655,223 |
| Canadian Pacific Lines in Maine | 234 | 4,027,748 | 615,518 | 4,865,368 | 507,102 | 624,002 | 55,860 | 1,383,517 | 2,653,616 | 54.5 | 2,211,752 | 2,027,394 | 7,187,822 | 13,193 | |
| Canadian Pacific Lines in Vermont | 90 | 970,112 | 129,850 | 130,896 | 31,261 | 29,378 | 20,283 | 93,532 | 1,381,479 | 134.6 | — | 39,728 | — | 38,287 | — |
| Central of Georgia | 90 | 770,046 | 621,376 | 3,096,092 | 320,287 | 403,623 | 66,505 | 964,623 | 1,875,644 | 60.6 | 1,220,448 | 591,359 | 555,223 | 655,223 | |
| Central of Georgia | 1,815 | 19,994,917 | 5,722,677 | 28,011,382 | 2,933,361 | 3,690,114 | 610,312 | 8,720,735 | 17,070,551 | 60.9 | 10,546,831 | 7,187,822 | 6,849,394 | 4,890,058 | |
| Central of New Jersey | 657 | 4,437,901 | 694,486 | 5,472,909 | 708,876 | 882,932 | 49,513 | 2,165,790 | 3,933,794 | 71.9 | 1,539,115 | 676,603 | 395,126 | 1,119,126 | |
| Central of New Jersey | 90 | 1,888,058 | 567,007 | 2,468,019 | 322,043 | 381,320 | 66,224 | 1,026,446 | 3,026,735 | 75.7 | 1,393,209 | 1,342,920 | 1,059,163 | 1,049,253 | |
| Chesapeake & Ohio | 3,085 | 15,560,582 | 2,063,074 | 18,332,259 | 1,864,603 | 2,753,692 | 204,721 | 4,044,354 | 9,374,079 | 51.1 | 8,958,180 | 2,879,622 | 3,214,342 | 2,929,843 | |
| Chicago & Illinois Midland | 131 | 515,289 | 1,451 | 545,742 | 67,399 | 81,509 | 4,513 | 2,165,790 | 3,933,794 | 52.3 | 73,789,180 | 24,758,775 | 28,166,449 | 23,322,030 | |
| Chicago & Illinois Midland | 131 | 4,507,399 | 11,510 | 4,749,863 | 567,004 | 1,815,633 | 2,148,542 | 1,954,466 | 4,106,678 | 8,886,076 | 62.0 | 4,177,728 | 2,820,957 | 27,997,308 | 17,312,340 |
| Chicago & Illinois Midland | 8,100 | 85,751,029 | 247,240,034 | 121,055,258 | 14,665,803 | 16,982,145 | 1,777,725 | 36,162,048 | 75,882,490 | 62.0 | 4,177,728 | 2,820,957 | 27,997,308 | 17,312,340 | |
| Chicago, Burlington & Quincy | 9,030 | 13,912,108 | 3,191,934 | 18,766,117 | 2,597,816 | 2,341,542 | 248,477 | 10,184,572 | 15,171,545 | 54.3 | 8,581,545 | 1,459,050 | 7,708,150 | 6,103,559 | |
| Chicago, Burlington & Quincy | 9 mos. | 121,704,020 | 23,032,040 | 187,891,122 | 20,393,093 | 16,789,122 | 2,311,339 | 38,833,126 | 34,599,320 | 53.9 | 12,962,795 | 3,471,092 | 32,309,188 | 13,270,700 | |
| Chicago Great Western | Sept. | 1,500 | 26,797 | 22,466,250 | 3,13,887 | 2,277,699 | 1,517,343 | 15,171,345 | 15,171,345 | 59.6 | 1,028,639 | 533,9 | 523,377,855 | 470,759 | |
| Chicago, Great Western | 9 mos. | 18,752,407 | 2,075,103 | 22,341,562 | 2,807,884 | 2,557,371 | 549,881 | 7,171,760 | 13,659,924 | 61.1 | 8,681,638 | 4,425,027 | 2,814,013 | 2,149,834 | |
| Chicago, Indianapolis & Louisville | Sept. | 541 | 8,744,044 | 101,429 | 9,053,508 | 1,556,242 | 276,887 | 2,913,083 | 6,112,837 | 61.7 | 3,474,301 | 2,894,627 | 2,666,837 | 2,232,968 | |
| Chicago, Indianapolis & Louisville | 9 mos. | 541 | 8,128,869 | 900,531 | 9,054,528 | 1,051,429 | 1,556,242 | 276,887 | 2,913,083 | 63.1 | 3,474,301 | 2,894,627 | 2,666,837 | 1,665,963 | |

Table continued on next left-hand page

LOCOMOTIVES FOR Tomorrow

Initial cost and low operating cost of modern steam locomotives make them highly acceptable power for post-war conditions.

The efficiency of the boiler is a major factor in the low cost of locomotive operation. Design, laboratory tests, and performance data on thousands of locomotives have conclusively shown that the small flue boiler with an Elesco superheater substantially lowers the cost of operation . . . specify them for tomorrow's power.



A-1614



SUPERHEATERS • FEEDWATER HEATERS
AMERICAN THROTTLES • STEAM DRYERS
EXHAUST STEAM INJECTORS • PYROMETERS

THE
SUPERHEATER
C O M P A N Y

Representative of
AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Blvd., CHICAGO

Montreal, Canada
THE SUPERHEATER COMPANY, LTD.

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1943—CONTINUED

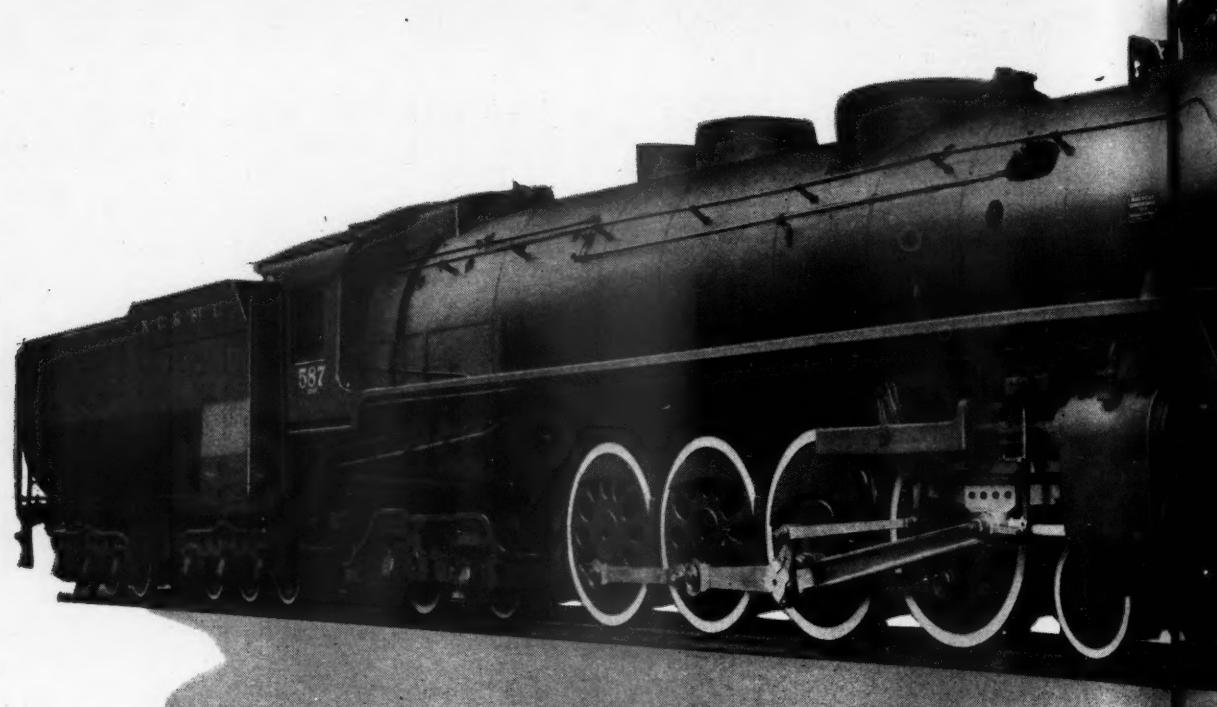
| Name of road | Av. mileage operated during period | Operating revenues | | | Operating expenses | | | Operating ratio | Total | Net from railway operation | Net railway operating income | |
|---|---|--------------------|-------------|-----------------------|--|-------------|----------------|-----------------|-------------|----------------------------------|---------------------------------|------------|
| | | Freight | Pasenger | Total (inc. misc.) | Maintenance of Way and Equipment structures | Traffic | Transportation | | | | | |
| Chicago, Milwaukee, St. Paul & Pacific..... Sept. | 10,740 | \$15,752,421 | \$2,999,160 | \$20,548,401 | \$2,847,900 | \$2,383,870 | \$2,448,394 | 57.1 | \$8,812,804 | \$5,128,095 | \$4,013,933 | |
| Chicago, Rock Island & Pacific..... Sept. | 10,768 | \$12,662,147 | \$2,995,437 | \$14,657,442 | \$2,656,837 | \$2,619,338 | \$2,233,779 | 56.5 | \$6,489,057 | \$4,231,057 | \$1,673,027 | |
| Chicago, Rock Island & Pacific..... Sept. | 7,531 | \$6,659,913 | 3,663,235 | 14,121,387 | 2,051,009 | 3,885,936 | 3,885,936 | 59.7 | \$5,551,407 | \$2,948,043 | 2,523,168 | |
| Chicago, Rock Island & Pacific..... Sept. | 7,538 | 9,399,874 | 29,332,743 | 13,126,931 | 13,207,093 | 17,386,577 | 27,809,393 | 56.3 | \$8,206,304 | \$7,181,919 | 32,368,080 | |
| Chicago, St. Paul, Minneapolis & Omaha..... Sept. | 1,617 | 2,102,403 | 376,372 | 2,674,682 | 2,989,219 | 307,776 | 37,452 | 58.9 | 1,098,175 | 691,220 | 454,285 | |
| Clinchfield Railroad..... Sept. | 1,624 | 15,764,910 | 2,781,146 | 20,123,120 | 2,651,237 | 2,046,390 | 2,415,135 | 54.3 | 6,020,124 | 4,239,611 | 3,691,086 | |
| Columbus & Greenville..... Sept. | 302 | 9,469,131 | 129,393 | 10,413 | 1,005,436 | 117,328 | 21,738 | 54.3 | 4,595,253 | 3,262,230 | 3,349,591 | |
| Colorado & Southern..... Sept. | 748 | 858,078 | 297,324 | 1,250,985 | 199,495 | 188,328 | 14,926 | 63.6 | 4,555,552 | 339,694 | 301,354 | |
| Fort Worth & Denver City..... Sept. | 748 | 6,980,222 | 2,433,198 | 10,250,310 | 1,298,832 | 1,37,072 | 137,072 | 61.5 | 3,944,647 | 2,511,131 | 2,355,520 | |
| Fort Worth & Denver City..... Sept. | 804 | 809,218 | 431,136 | 1,337,396 | 153,853 | 133,398 | 22,789 | 53.9 | 616,198 | 367,147 | 1,733,617 | |
| Fort Worth & Denver City..... Sept. | 804 | 6,717,833 | 3,641,622 | 11,237,848 | 1,170,630 | 1,067,712 | 211,754 | 50.3 | 5,585,800 | 3,248,880 | 2,832,337 | |
| Colorado & Wyoming..... Sept. | 42 | 88,510 | | 135,045 | 22,925 | 15,125 | 889 | 60.9 | 104,423 | 77.3 | 6,355 | |
| Columbus & Greenville..... Sept. | 168 | 851,872 | 94,400 | 7,320 | 109,758 | 26,123 | 16,444 | 41,53 | 801,103 | 62.3 | 497,077 | |
| Delaware, Lackawanna & Western..... Sept. | 168 | 903,637 | 1,045,019 | 68,307 | 228,924 | 175,228 | 34,082 | 371,037 | 922,137 | 88.2 | 10,446 | |
| Delaware & Hudson..... Sept. | 848 | 3,984,326 | 262,920 | 4,362,675 | 482,424 | 972,794 | 43,496 | 64.8 | 1,536,982 | 992,139 | 959,987 | |
| Delaware, Lackawanna & Western..... Sept. | 947 | 5,207,102 | 936,036 | 6,771,697 | 8,220,036 | 1,008,831 | 111,266 | 59.4 | 11,677,332 | 7,171.4 | 6,593,535 | |
| Delaware, Lackawanna & Western..... Sept. | 977 | 47,504,479 | 8,563,751 | 61,597,435 | 6,039,637 | 8,592,020 | 1,016,474 | 22,988,048 | 40,240,670 | 65.3 | 21,356,765 | |
| Denver & Rio Grande Western..... Sept. | 2,405 | 5,148,431 | 791,047 | 6,191,061 | 516,298 | 1,127,782 | 90,567 | 57.7 | 2,618,372 | 1,680,866 | 1,518,855 | |
| Denver & Salt Lake..... Sept. | 2,405 | 43,321,778 | 7,285,881 | 52,379,294 | 8,233,654 | 8,444,553 | 8,227,61 | 55.6 | 23,459,722 | 14,726,221 | 13,515,020 | |
| Detroit & Mackinac..... Sept. | 232 | 667,770 | 116,762 | 740,556 | 42,386 | 48,930 | 27,224 | 73.3 | 37,241 | -11,241 | 21,622 | |
| Detroit & Toledo Shore Line..... Sept. | 242 | 539,435 | 116,762 | 740,556 | 365,564 | 459,042 | 23,721 | 706,114 | 1,651,887 | 602,075 | 280,482 | |
| Detroit, Toledo & Ironton..... Sept. | 50 | 3,068,622 | 76,483 | 2,253,92 | 306,234 | 219,276 | 82,536 | 813,843 | 1,494,733 | 47.4 | 1,659,769 | |
| Duluth, Missabe & Iron Range..... Sept. | 464 | 1,481 | 82,767 | 164,421 | 15,414 | 7,729 | 7,729 | 57.7 | 1,669,799 | 3,572,689 | 2,907,220 | |
| Duluth, Missabe & Iron Range..... Sept. | 543 | 5,431,030 | 4,960 | 6,304,723 | 43,415 | 24,957 | 9,273 | 57.9 | 1,782,225 | 57.9 | 1,297,632 | |
| Duluth, Missabe & Iron Range..... Sept. | 546 | 27,285,004 | 38,091 | 31,689,428 | 3,440,748 | 4,108,000 | 38,971 | 5,458,843 | 13,397,148 | 42.3 | 18,292,280 | |
| Duluth, Missabe & Iron Range..... Sept. | 662 | 1,227,683 | 219 | 24,353,466 | 2,346,913 | 2,346,913 | 2,119,257 | 402,649 | 6,033,222 | 11,946,043 | 47.3 | 6,623,564 |
| Erie..... Sept. | 175 | 219,000 | 2,900 | 228,500 | 49,619 | 28,214 | 1,932 | 72.2 | 92,912 | 176,366 | 52,134 | |
| Erie..... Sept. | 175 | 1,889,000 | 33,500 | 1,965,347 | 354,115 | 259,614 | 17,360 | 73,030 | 1,422,575 | 72.6 | 53,255 | |
| Erie..... Sept. | 392 | 20,899,970 | 18 | 2,300,316 | 6,934,002 | 14,392 | 13,620 | 887,185 | 1,897,766 | 71.6 | 1,135,937 | |
| Erie..... Sept. | 392 | 20,899,030 | 219 | 2,300,316 | 6,934,002 | 14,392 | 13,620 | 887,185 | 1,897,766 | 71.6 | 1,135,937 | |
| Erie..... Sept. | 2,244 | 11,730,513 | 1,110,198 | 13,692,187 | 1,437,975 | 2,130,928 | 1,850,105 | 57.2 | 4,899,733 | 2,228,674 | 1,585,571 | |
| Erie..... Sept. | 2,243 | 103,003,439 | 8,211,289 | 118,104,386 | 10,217,215 | 18,430,318 | 1,850,105 | 37,922,043 | 71,875,172 | 60.9 | 46,229,224 | |
| Erie..... Sept. | 682 | 13,113,963 | 10,566,811 | 25,233,485 | 2,346,913 | 2,346,913 | 2,119,257 | 402,649 | 6,033,222 | 11,946,043 | 47.3 | 13,287,442 |
| Florida East Coast..... Sept. | 329 | 6,309,454 | 1,491,876 | 8,174,835 | 801,716 | 864,038 | 198,504 | 56.4 | 3,227,372 | 339,928 | 309,452 | |
| Georgia Railroad & Florida..... Sept. | 408 | 1,153,450 | 1,544 | 44,441 | 1,519,917 | 36,381 | 21,970 | 50.0 | 3,511,457 | 3,299,350 | 3,116,396 | |
| Grand Trunk Western..... Sept. | 1,026 | 2,175,000 | 335,000 | 2,697,000 | 458,026 | 484,337 | 35,832 | 56.6 | 1,059,311 | 2,145,554 | 3,249,717 | |
| Canadian National Lines in New England..... Sept. | 172 | 21,857,000 | 2,684,000 | 26,133,085 | 2,120,021 | 2,339,407 | 2,402,182 | 56.7 | 1,458,913 | 5,126,074 | 4,020,389 | |
| Great Northern..... Sept. | 8,310 | 15,980,202 | 1,665,416 | 19,138,494 | 2,428,924 | 2,862,792 | 2,707,264 | 57.6 | 8,303,014 | 3,249,828 | 4,951,872 | |
| Green Bay & Western..... Sept. | 234 | 11,928,847 | 12,872,937 | 14,407,140 | 20,876,96 | 25,286,062 | 34,080,184 | 60.6 | 56,739,057 | 22,792,059 | 25,121,586 | |
| Gulf & Ship Island..... Sept. | 259 | 1,322,505 | 412,892 | 1,911,367 | 577,231 | 281,332 | 26,159 | 56.6 | 1,752,004 | 1,552,633 | 1,063,294 | |

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1943—CONTINUED

| Name of road | Av. mileage operated during period | Operating revenues | | | Operating expenses | | | Operating ratio | Net from railway operation | Operating income | Net railway operating income | | |
|--|------------------------------------|-----------------------|------------------|-------------------|--------------------|----------------|-------------|-----------------|----------------------------|------------------|------------------------------|------------|------------|
| | | Pasenger (inc. misc.) | Total structures | Way and equipment | Traffic | Transportation | Total | | | | | | |
| Gulf, Mobile & Ohio | 1,973 | \$2,682,839 | \$30,030,861 | \$441,278 | \$79,558 | \$95,248 | \$1,929,041 | 63.7 | \$1,101,927 | \$577,963 | \$530,189 | | |
| Illinois Central | 6,351 | \$250,493 | \$2,066,773 | 2,066,773 | 728,263 | 7,332,199 | 61,4 | 11.043,977 | \$470,470 | 3,735,315 | 3,736,624 | | |
| Illinois Central | 9 mos. | 25,694,893 | 28,958,018 | 4,274,901 | 4,202,165 | 7,332,199 | 61,4 | 6,462,381 | 2,585,946 | 2,581,028 | 2,177,861 | | |
| Illinois Central | 9 mos. | 13,703,896 | 3,296,189 | 17,954,043 | 3,158,020 | 7,332,122 | 11,493,622 | 64.0 | 53,619,372 | 2,868,444 | 24,376,899 | 17,554,075 | |
| Illinois Central | 9 mos. | 123,657,092 | 24,832,628 | 157,441,817 | 23,955,079 | 28,470,508 | 1,885,312 | 44,437,692 | 103,822,445 | 65.9 | 53,619,372 | 2,868,444 | |
| Yazoo & Mississippi Valley | Sept. 9 mos. | 4,824 | 2,160,598 | 458,548 | 2,765,726 | 370,582 | 42,004 | 1,002,156 | 1,902,006 | 68.8 | 863,720 | 386,924 | |
| Yazoo & Mississippi Valley | Sept. 9 mos. | 6,351 | 2,842,868 | 3,175,774 | 28,061,494 | 3,941,915 | 3,428,638 | 370,822 | 8,443,022 | 17,000,220 | 6,226,911 | 4,830,725 | |
| Illinois Central System | Sept. 9 mos. | 878 | 15,864,494 | 3,754,737 | 20,721,769 | 3,043,169 | 3,528,602 | 2,256,134 | 13,955,668 | 7,326,101 | 2,817,879 | 2,568,546 | |
| Illinois Terminal | Sept. 9 mos. | 4,824 | 2,066,773 | 3,043,169 | 27,896,944 | 31,889,146 | 2,066,773 | 52,850,714 | 120,327,211 | 65.1 | 64,916,100 | 34,060,155 | |
| Kansas City Southern | Sept. 9 mos. | 4,824 | 2,066,773 | 28,008,402 | 185,743,311 | 2,066,773 | 52,850,714 | 120,327,211 | 65.1 | 64,916,100 | 34,060,155 | 26,228,570 | |
| Kansas, Oklahoma & Gulf | Sept. 9 mos. | 4,824 | 169,542 | 821,636 | 91,378 | 85,651 | 18,277 | 2,39,445 | 4,026,870 | 55.57 | 365,064 | 1,291,226 | |
| Lake Superior & Ishpeming | Sept. 9 mos. | 476 | 1,566,767 | 7,299,744 | 816,966 | 729,314 | 165,694 | 2,10,337 | 4,026,870 | 55.57 | 365,064 | 1,291,226 | |
| Lehigh & Hudson River | Sept. 9 mos. | 476 | 4,988,122 | 3,952,278 | 7,627,530 | 553,89 | 67,236 | 89,572 | 4,026,870 | 55.57 | 365,064 | 1,291,226 | |
| Lehigh & New England | Sept. 9 mos. | 878 | 3,073,860 | 3,320,934 | 32,224,023 | 5,382,274 | 4,046,326 | 528,831 | 7,766,170 | 18,74,339 | 58.1 | 13,489,784 | 4,191,224 |
| Lehigh Valley | Sept. 9 mos. | 1,869,05 | 2,928,267 | 12,198 | 2,476,100 | 304,972 | 349,264 | 5,513 | 484,188 | 1,212,022 | 49.0 | 1,264,078 | 4,952,224 |
| Louisville & Nashville | Sept. 9 mos. | 96 | 260,818 | 1,378 | 262,770 | 71,355 | 34,350 | 70,440 | 205,553 | 67.5 | 99,044 | 65,530 | |
| Maine Central | Sept. 9 mos. | 190 | 530,274 | 4,360 | 533,241 | 39,743 | 60,990 | 706,243 | 1,55,252 | 3,37,373 | 84,790 | 58,933 | |
| Midland Valley | Sept. 9 mos. | 190 | 4,630,792 | | 4,656,082 | 403,569 | 986,584 | 60,247 | 1,303,027 | 2,91,381 | 62.7 | 1,264,078 | 4,952,224 |
| Minneapolis, St. Paul & Sault Ste. Marie | Sept. 9 mos. | 351 | 1,38,372 | 69 | 1,41,689 | 35,208 | 15,393 | 22,921 | 189,106 | 72.0 | 73,664 | 29,890 | |
| Duluth, South Shore & Atlantic | Sept. 9 mos. | 1,408 | 1,337,459 | 1,881 | 1,351,569 | 213,651 | 16,532 | 1,09,121 | 1,42,389 | 60.7 | 92,946 | 29,890 | |
| Spokane International | Sept. 9 mos. | 152 | 1,374,976 | 30,286 | 10,935,886 | 1,727,393 | 1,471,057 | 1,86,977 | 1,42,389 | 60.7 | 92,946 | 29,890 | |
| Missouri Central | Sept. 9 mos. | 158 | 1,264,971 | 10,243,473 | 302,586 | 10,935,886 | 1,727,393 | 1,471,057 | 534,813 | 3,201,652 | 67.1 | 3,599,759 | 2,798,987 |
| Missouri-Kansas-Texas Lines | Sept. 9 mos. | 365 | 1,529,563 | 32,733 | 40,782,668 | 5,678,409 | 6,480,15 | 23,355,731 | 1,86,977 | 42,739,595 | 55.9 | 7,104,238 | 1,201,391 |
| Missouri Pacific | Sept. 9 mos. | 172 | 1,435,588 | 421 | 2,101,601 | 34,968,800 | 5,286,605 | 5,481,129 | 36,419 | 1,42,803 | 65.0 | 1,201,391 | 1,201,391 |
| Gulf Coast Lines | Sept. 9 mos. | 1,734 | 2,948,244 | 42,235,162 | 1,394,28 | 7,099,192 | 1,111,427 | 740,276 | 1,31,902 | 1,804,148 | 84.4 | 22,796 | 40,146 |
| International Great Northern | Sept. 9 mos. | 1,155 | 15,977,553 | 41,440,046 | 22,032,196 | 3,285,450 | 2,679,366 | 20,955,195 | 2,559,489 | 44,420,099 | 54.1 | 30,325 | 26,228,570 |
| Monongahela | Sept. 9 mos. | 171 | 565,693 | 2,264 | 571,758 | 69,269 | 44,461 | 656 | 130,644 | 323,848 | 1,659,394 | 1,955,617 | |

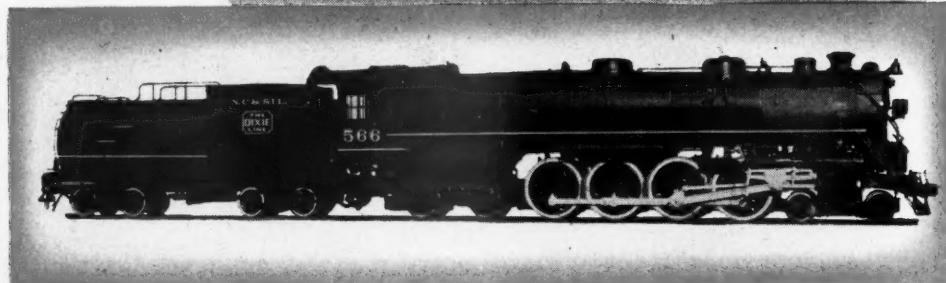
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5

Delivered in March

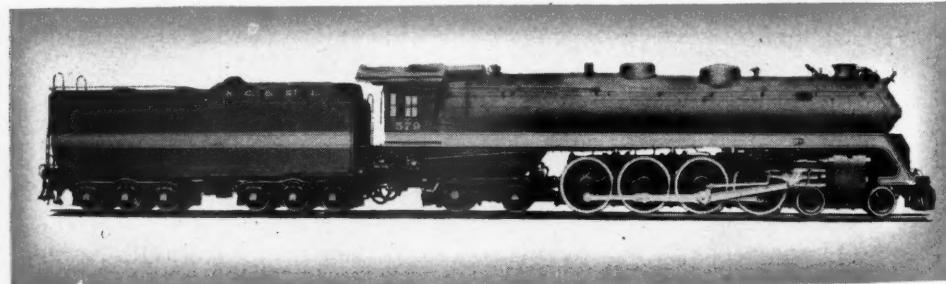
1930



10

Delivered in July

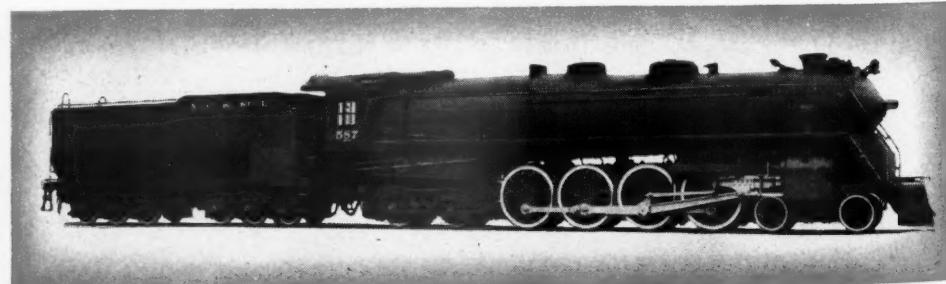
1942



10

Delivered in September

1943





THE DIXIE LINE

The Nashville, Chattanooga and St. Louis Railway placed in service in 1930 five 4-8-4 type Alco locomotives. A steady increase in traffic created a vital need for more motive power. As a result ten improved 4-8-4 type locomotives were delivered to this road by Alco in July, 1942, and only recently, in September, 1943, Alco delivered ten more.

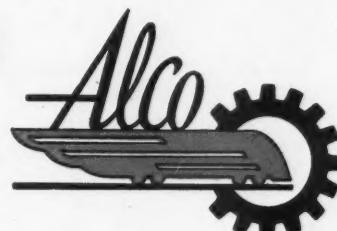
Right now the railroads are handling the heaviest traffic on record. Powerful steam locomotives of proven design are in large measure responsible for this outstanding performance.

Locomotive Characteristics

| | | | |
|---------------------|--------------|------------------------|--------------|
| Weight on Drivers | 228,000 Lb. | Boiler Pressure | 250 Lb. |
| Weight of Engine | 399,000 Lb. | Tractive Power | 57,000 Lb. |
| Cylinders | 25 x 30 Ins. | Tender Capacity, Fuel | 16 Tons |
| Diameter of Drivers | 70 Ins. | Tender Capacity, Water | 15,000 Gals. |

AMERICAN LOCOMOTIVE

MANUFACTURERS OF MOBILE POWER
STEAM, DIESEL AND ELECTRIC LOCOMOTIVES, MARINE DIESELS, TANKS,
GUN CARRIAGES & OTHER ORDNANCE



REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1943—CONTINUED

| Name of road | Av. mileage operated during period | Operating revenues | | | Operating expenses | | | Net railway operating income | | | | |
|-------------------------------------|---|--------------------|-------------|------------------------|-----------------------|------------|------------|---------------------------------|-------------|---------------------|------------|-------------|
| | | Freight | | Passenger (inc. misc.) | Way and structures | | Equipment | Transportation | | Operating income | | |
| | | Total | Traffic | | | | | Total | | 1943 | 1942 | |
| Montour | Sept. 51 | \$273,987 | 275,629 | \$18,139 | \$90,561 | \$1,249 | \$65,680 | \$133,207 | 66.5 | \$92,422 | \$28,694 | |
| Nashville, Chattanooga & St. Louis | Sept. 51 | 2,177,594 | 2,193,058 | 13,818 | 543,949 | 8,502 | 571,814 | 1,300,956 | 70.5 | 862,558 | 609,258 | |
| Nevada Northern | Sept. 1,090 | 2,540,010 | 2,525,270 | 630,251 | 91,242 | 1,133,925 | 2,054,956 | 1,048,847 | 70.5 | 275,113 | 584,457 | |
| New York Central | Sept. 1,090 | 22,447,239 | 6,447,849 | 30,985,400 | 3,723,771 | 747,910 | 9,079,266 | 19,570,688 | 63.2 | 11,447,712 | 4,299,840 | |
| Pittsburgh & Lake Erie | Sept. 9 mos. | 165 | 47,459 | 1,302 | 51,966 | 2,252 | 1,195 | 9,640 | 55.1 | 23,828 | 8,580 | |
| New York, Chicago & St. Louis | Sept. 9 mos. | 10,761 | 39,438,418 | 14,731,533 | 59,941,559 | 8,530,466 | 10,559,947 | 31,334 | 8,660 | 267,753 | 282,250 | |
| New York, New Haven & Hartford | Sept. 9 mos. | 10,793 | 362,213,105 | 119,304,502 | 528,509,463 | 62,882,534 | 85,262,265 | 5,789,765 | 167,847,619 | 339,289,335 | 64.2 | 189,220,128 |
| New York, Ontario & Western | Sept. 9 mos. | 546 | 6,769,947 | 57,919 | 783,498 | 94,872 | 150,938 | 21,427,786 | 81.4 | 555,163 | 133,214 | |
| New York, Susquehanna & Western | Sept. 9 mos. | 546 | 5,881,272 | 75,170 | 6,637,100 | 849,872 | 1,268,547 | 7,330,221 | 19,021,727 | 7,561,210 | 152,504 | 4,835,370 |
| Norfolk & Western | Sept. 9 mos. | 120 | 3,879,693 | 348,094 | 4,249,605 | 32,329 | 52,062 | 2,240,309 | 4,315,484 | 1,674,078 | 1,202,325 | |
| Norfolk Southern | Sept. 9 mos. | 734 | 5,690,700 | 244,700 | 1,350,395 | 329,157 | 351,995 | 40,580 | 52.3 | 35,711,155 | 14,673,328 | |
| Northern Pacific | Sept. 9 mos. | 2,154 | 11,167,387 | 1,491,675 | 13,041,566 | 1,319,001 | 2,815,525 | 9,458,445 | 59.9 | 5,900,543 | 3,668,390 | |
| Oklahoma City-Ada-Atoka | Sept. 9 mos. | 6,868 | 11,084,566 | 1,754,535 | 11,680,657 | 11,294,955 | 11,071,229 | 22,769,051 | 1,561,538 | 83.9 | 125,818 | 88,597 |
| Pennsylvania | Sept. 9 mos. | 6,868 | 8,330,898 | 12,399,508 | 106,408,452 | 13,316,086 | 17,870,261 | 1,542,790 | 25,138,216 | 85.5 | 963,956 | 642,919 |
| Pittsburgh & Shawmut | Sept. 9 mos. | 331 | 4,384,863 | 129,233 | 4,659,420 | 1,429,303 | 492,972 | 2,057 | 1,213,294 | 53.8 | 2,055,285 | 1,434,998 |
| Long Island | Sept. 9 mos. | 378 | 1,368,596 | 2,385,013 | 3,911,354 | 563,734 | 5,258 | 1,129 | 2,147,889 | 56.7 | 49,746,239 | 10,924,620 |
| Pennsylvania-Reading Seashore Lines | Sept. 9 mos. | 378 | 10,174,009 | 21,433,394 | 32,994,782 | 4,797,780 | 4,264,872 | 10,369 | 270,015 | 61.4 | 41,072,125 | 20,185,118 |
| Pere Marquette | Sept. 9 mos. | 1,983 | 3,981,849 | 3,711,543 | 1,05 | 156,636 | 1,289,0 | 1,394,80 | 415,006 | 57.3 | 136,397 | 114,265 |
| Pittsburgh & West Virginia | Sept. 9 mos. | 2,015 | 36,344,046 | 2,872,322 | 41,147,614 | 5,870,217 | 6,841,542 | 1,036 | 160,484 | 41,072,125 | 1,027,587 | |
| Pitts' urg. Shawmut & Northern | Sept. 9 mos. | 97 | 140,072 | 140,242 | 142,900 | 27,128 | 18,432 | 1,895 | 34,881 | 55.3 | 1,027,587 | 782,519 |
| Rutland | Sept. 9 mos. | 136 | 5,767,829 | 96 | 606,920 | 99,859 | 116,882 | 1,001,417 | 60.4 | 87,092 | 53,257 | |
| St. Louis-San Francisco | Sept. 9 mos. | 190 | 1,095,397 | 1,111,771 | 207,656 | 199,901 | 9,249 | 1,011 | 404,501 | 4,04,501 | 1,027,587 | 1,027,587 |
| St. Louis, San Francisco & Texas | Sept. 9 mos. | 159 | 365,269 | 224,576 | 3,219,792 | 30,331 | 29,798 | 24,574 | 87,642 | 8,197 | 217,523 | 128,393 |

Table continued on next left-hand page

Railway Age—November 6, 1943

* The first four figures in the 7 months' column of the New York, Chicago & St. Louis, which appeared on page 441, September 11, *Railway Age*, were reported incorrectly. They should read: Average mileage operated during period 1,688; operating revenues (freight) 55,423,434 and (passenger) 1,663,803; and total (including miscellaneous) 58,068,579.

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WESTINGHOUSE AIR BRAKE CO.

WILMERDING, PENNSYLVANIA

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF SEPTEMBER AND NINE MONTHS OF CALENDAR YEAR 1943—CONTINUED

| Name of road | Av. mileage operated during period | Operating revenues— | | | Operating expenses— | | | Net from railway operation— | | | Net railway operating income | | | | |
|---|------------------------------------|---------------------|------------------------|-------------|--------------------------|------------|------------|-----------------------------|-------------|-----------------|------------------------------|-------------|-------------|------------|------------|
| | | Freight | Passenger (inc. misc.) | Total | Maintenance of equipment | Structures | Traffic | Transportation | Total | Operating ratio | Operating income | 1943 | 1942 | | |
| St. Louis Southwestern Lines | Sept. 9 mos. | \$4,916,223 | \$311,644 | \$5,354,836 | \$480,079 | \$519,325 | \$107,918 | \$1,264,449 | \$2,488,422 | 46.5 | \$2,866,414 | \$1,116,285 | \$471,484 | | |
| Seaboard Air Line | Sept. 9 mos. | 4,177 | 6,084,449 | 2,823,823 | 47,174,897 | 3,616,716 | 4,413,516 | 890,478 | 11,004,794 | 20,948,917 | 44.4 | 26,225,580 | 11,420,721 | 8,526,233 | |
| Southern Railway | Sept. 9 mos. | 4,179 | 66,396,186 | 30,106,899 | 102,911,129 | 10,125,471 | 12,900,751 | 2,000,107 | 27,826,466 | 56,728,774 | 55.1 | 46,182,355 | 30,292,355 | 26,050,048 | |
| Cincinnati, New Orleans & Texas Pacific | Sept. 9 mos. | 6,514 | 14,963,099 | 4,665,855 | 20,717,235 | 2,100,885 | 3,070,235 | 214,902 | 4,960,435 | 10,936,577 | 52.8 | 9,780,658 | 3,777,976 | 3,618,277 | |
| Georgia Southern & Florida | Sept. 9 mos. | 315 | 1,512,823 | 541,307 | 2,137,890 | 164,712 | 65,076 | 26,277 | 4,558,127 | 95,969,586 | 52.5 | 86,680,567 | 29,381,515 | 27,333,107 | |
| New Orleans & Northeastern | Sept. 9 mos. | 337 | 2,210,241 | 4,609,147 | 2,962,181 | 2,655,201 | 609,177 | 38,026 | 635,439 | 1,630,070 | 55.0 | 1,332,111 | 436,657 | 488,095 | |
| Southern Pacific | Sept. 9 mos. | 397 | 372,753 | 192,378 | 612,447 | 2,311,900 | 4,768,024 | 329,089 | 14,257,586 | 50.2 | 12,920,170 | 4,711,930 | 4,633,978 | | |
| Texas & New Orleans | Sept. 9 mos. | 4,341 | 7,699,816 | 2,160,657 | 10,451,422 | 1,006,946 | 2,067,214 | 146,985 | 281,842 | 582,906 | 44.9 | 715,336 | 277,379 | 366,208 | |
| Spokane, Portland & Seattle | Sept. 9 mos. | 929 | 1,655,556 | 169,203 | 1,904,241 | 1,298,242 | 1,043,520 | 113,228 | 2,473,126 | 4,805,919 | 44.4 | 6,100,311 | 2,086,430 | 1,457,550 | |
| Tennessee Central | Sept. 9 mos. | 286 | 2,995,501 | 459,756 | 3,628,512 | 10,996,868 | 9,532,104 | 10,998,752 | 1,264,464 | 23,063,054 | 47,785,655 | 48.5 | 50,710,213 | 25,397,774 | 15,374,452 |
| Texas & Pacific | Sept. 9 mos. | 286 | 3,659,374 | 1,718,104 | 5,873,205 | 3,530,996 | 4,541,740 | 5,330,996 | 566,020 | 10,629,170 | 22,923,242 | 59.2 | 15,790,419 | 6,490,127 | 5,049,857 |
| Union Pacific System | Sept. 9 mos. | 1,884 | 1,332,573 | 1,119,303 | 2,452,196 | 3,557,765 | 3,007,258 | 354,119 | 212,703 | 636,397 | 1,263,948 | 66.4 | 640,293 | 24,251 | 7,597,537 |
| Utah | Sept. 9 mos. | 239 | 3,518,986 | 15,088,096 | 17,568,094 | 2,178,227 | 40,384,719 | 52,374,151 | 4,595,126 | 94,441,222 | 268,161,958 | 60.4 | 136,440,437 | 59,335,695 | 46,329,788 |
| Virginia | Sept. 9 mos. | 657 | 2,250,341 | 9,188 | 2,329,492 | 540,761 | 58,170 | 13,626 | 281,842 | 4,805,919 | 52.4 | 8,366,036 | 6,040,733 | 4,285,647 | |
| Western Pacific | Sept. 9 mos. | 658 | 2,062,603 | 82,836,538 | 47,030,476 | 3,884,917 | 1,547,199 | 233,769 | 475,161 | 1,043,520 | 1,017,823 | 44.9 | 4,239,753 | 1,290,641 | 728,310 |
| Western Maryland | Sept. 9 mos. | 2,393 | 59,367,808 | 7,708,535 | 10,000,384 | 1,000,384 | 1,119,303 | 119,311 | 36,860 | 22,366 | 74,430 | 1,481,996 | 11,927,269 | 7,594,947 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Wheeling & Lake Erie | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2,888,997 | 1,000,384 | 417,816 | 10,451 | 38,016 | 362 | 166,372 | 42.2 | 1,340,481 | 1,333,939 | 346,889 |
| Wabash | Sept. 9 mos. | 2,393 | 1,050,034 | 1,050,034 | 1,050,216 | 1,34,333 | 365,691 | 349,772 | 167,699 | 209,956 | 666,653 | 1,513,176 | 2,044,589 | 1,955,926 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Western Maryland | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2,888,997 | 1,000,384 | 417,816 | 10,451 | 38,016 | 362 | 166,372 | 42.2 | 1,340,481 | 1,333,939 | 346,889 |
| Wabash | Sept. 9 mos. | 2,393 | 1,050,034 | 1,050,034 | 1,050,216 | 1,34,333 | 365,691 | 349,772 | 167,699 | 209,956 | 666,653 | 1,513,176 | 2,044,589 | 1,955,926 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Western Maryland | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2,888,997 | 1,000,384 | 417,816 | 10,451 | 38,016 | 362 | 166,372 | 42.2 | 1,340,481 | 1,333,939 | 346,889 |
| Wabash | Sept. 9 mos. | 2,393 | 1,050,034 | 1,050,034 | 1,050,216 | 1,34,333 | 365,691 | 349,772 | 167,699 | 209,956 | 666,653 | 1,513,176 | 2,044,589 | 1,955,926 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Western Maryland | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2,888,997 | 1,000,384 | 417,816 | 10,451 | 38,016 | 362 | 166,372 | 42.2 | 1,340,481 | 1,333,939 | 346,889 |
| Wabash | Sept. 9 mos. | 2,393 | 1,050,034 | 1,050,034 | 1,050,216 | 1,34,333 | 365,691 | 349,772 | 167,699 | 209,956 | 666,653 | 1,513,176 | 2,044,589 | 1,955,926 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Western Maryland | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2,888,997 | 1,000,384 | 417,816 | 10,451 | 38,016 | 362 | 166,372 | 42.2 | 1,340,481 | 1,333,939 | 346,889 |
| Wabash | Sept. 9 mos. | 2,393 | 1,050,034 | 1,050,034 | 1,050,216 | 1,34,333 | 365,691 | 349,772 | 167,699 | 209,956 | 666,653 | 1,513,176 | 2,044,589 | 1,955,926 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Western Maryland | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2,888,997 | 1,000,384 | 417,816 | 10,451 | 38,016 | 362 | 166,372 | 42.2 | 1,340,481 | 1,333,939 | 346,889 |
| Wabash | Sept. 9 mos. | 2,393 | 1,050,034 | 1,050,034 | 1,050,216 | 1,34,333 | 365,691 | 349,772 | 167,699 | 209,956 | 666,653 | 1,513,176 | 2,044,589 | 1,955,926 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Western Maryland | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2,888,997 | 1,000,384 | 417,816 | 10,451 | 38,016 | 362 | 166,372 | 42.2 | 1,340,481 | 1,333,939 | 346,889 |
| Wabash | Sept. 9 mos. | 2,393 | 1,050,034 | 1,050,034 | 1,050,216 | 1,34,333 | 365,691 | 349,772 | 167,699 | 209,956 | 666,653 | 1,513,176 | 2,044,589 | 1,955,926 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Western Maryland | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2,888,997 | 1,000,384 | 417,816 | 10,451 | 38,016 | 362 | 166,372 | 42.2 | 1,340,481 | 1,333,939 | 346,889 |
| Wabash | Sept. 9 mos. | 2,393 | 1,050,034 | 1,050,034 | 1,050,216 | 1,34,333 | 365,691 | 349,772 | 167,699 | 209,956 | 666,653 | 1,513,176 | 2,044,589 | 1,955,926 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Western Maryland | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2,888,997 | 1,000,384 | 417,816 | 10,451 | 38,016 | 362 | 166,372 | 42.2 | 1,340,481 | 1,333,939 | 346,889 |
| Wabash | Sept. 9 mos. | 2,393 | 1,050,034 | 1,050,034 | 1,050,216 | 1,34,333 | 365,691 | 349,772 | 167,699 | 209,956 | 666,653 | 1,513,176 | 2,044,589 | 1,955,926 | |
| Ann Arbor | Sept. 9 mos. | 294 | 4,235,798 | 30,917,549 | 8,096,246 | 42,117,097 | 5,493,945 | 6,912,467 | 465,903 | 10,891,964 | 25,431,158 | 51.3 | 1,219,043 | 783,529 | 615,750 |
| Western Maryland | Sept. 9 mos. | 843 | 2,772,935 | 80,170 | 524,438 | 1,063 | 4,502,771 | 4,502,771 | 118,047 | 34,273 | 369,158 | 831,867 | 1,219,218 | 44,743 | |
| Western Pacific | Sept. 9 mos. | 507 | 2,216,820 | 33,187 | 2 | | | | | | | | | | |